

FY2013

IOWA ARMY AMMUNITION PLANT
Army Defense Environmental Restoration Program
Installation Action Plan

Printed 27 August 2013

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the restoration manager, the US Army Environmental Command (USAEC), the Iowa Army Ammunition Plant (IAAAP), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

Acronyms

| | |
|---------|---|
| AEDB-CC | Army Environmental Database - Compliance-related Cleanup |
| AEDB-R | Army Environmental Database - Restoration |
| AMC | Army Materiel Command |
| AOC | Area of Concern |
| AR | Administrative Record |
| ARNG | Army National Guard |
| bgs | below ground surface |
| BRAC | Base Realignment and Closure |
| CAMU | Corrective Action Management Unit |
| CAP | Corrective Action Plan |
| CC | Compliance-related Cleanup |
| CCL | Contaminated Clothing Laundry |
| CEA | Cap Extension Area |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CMI (C) | Corrective Measures (Construction) |
| CMI (O) | Corrective Measures (Operation) |
| CMIP | Corrective Measures Implementation Plan |
| CMS | Corrective Measures Study |
| CQCP | Contractor Quality Control Plan |
| CR | Compliance Restoration |
| CTT | Closed, Transferred and Transferring |
| CWP | Contaminated Waste Processor |
| cy | cubic yard |
| DD | Decision Document |
| DERP | Defense Environmental Restoration Program |
| DMM | Discarded Military Munitions |
| DNT | 2,6 Dinitrotoluene |
| EE/CA | Engineering Evaluation/Cost Analysis |
| ER,A | Environmental Restoration, Army |
| ESD | Explanation of Significant Differences |
| EWI | Explosive Waste Incinerator |
| FFA | Federal Facility Agreement |
| FRA | Final Remedial Action |
| FS | Feasibility Study |
| FUSRAP | Formerly Utilized Sites Remedial Action Program |
| FY | Fiscal Year |
| GO/CO | Government Owned/Contractor Operated |
| HMX | Octogen |
| HRR | Historical Records Review |
| HRS | Hazard Ranking System |
| IA | Iowa |
| IAAAP | Iowa Army Ammunition Plant |
| IAAP | Iowa Army Ammunition Plant (AEDB-R designation) |
| IAARNG | Iowa Army National Guard |
| IAP | Installation Action Plan |

Acronyms

| | |
|------------|---|
| ID | Identification |
| IDA | Inert Disposal Area |
| InDA | Incendiary Disposal Area |
| IR | Installation Restoration |
| IRA | Interim Remedial Action |
| IRP | Installation Restoration Program |
| K | thousand |
| LAP | Load, Assemble and Pack |
| LTM | Long-Term Management |
| LTDD | Low Temperature Thermal Desorption |
| LUC | Land Use Control |
| LX-14 | Product Name (polymer-bonded explosives) |
| MC | Munitions Constituents |
| MEC | Munitions and Explosives of Concern |
| MMRP | Military Munitions Response Program |
| MNA | Monitored Natural Attenuation |
| MR | Munitions Response |
| MRA | Munitions Response Area |
| MRS | Munitions Response Site |
| MRSP | Munitions Response Site Prioritization Protocol |
| N/A | Not Applicable |
| NEPA | National Environmental Policy Act |
| NFA | No Further Action |
| NPDES | National Pollutant Discharge Elimination System |
| NPL | National Priorities List |
| O&M | Operation and Maintenance |
| OB | Open Burn |
| OU | Operable Unit |
| OUUSD(I&E) | Office of the Deputy Under Secretary of Defense for Installations and Environment |
| PA | Preliminary Assessment |
| PBA | Performance-Based Acquisition |
| PBC | Performance-Based Contract |
| PCB | Polychlorinated Biphenyls |
| PCP | Pentachlorophenol |
| PDS | Possible Demolition Site |
| PP | Proposed Plan |
| ppb | parts per billion |
| ppm | parts per million |
| RA | Remedial Action |
| RA(C) | Remedial Action (Construction) |
| RA(O) | Remedial Action (Operation) |
| RAB | Restoration Advisory Board |
| RACR | Remedial Action Completion Report |
| RC | Response Complete |
| RCRA | Resource Conservation and Recovery Act |

Acronyms

| | |
|---------|---|
| RD | Remedial Design |
| RDX | Cyclotrimethylenetrinitramine |
| RFI | RCRA Facility Investigation |
| RI | Remedial Investigation |
| RIP | Remedy-in-Place |
| ROD | Record of Decision |
| RRSE | Relative Risk Site Evaluation |
| RSL | Residential Screening Level |
| S&A | Supervision and Administration |
| SAP | Sampling and Analysis Plan |
| SI | Site Investigation |
| SOB | Statement of Basis |
| SRI | Supplemental Remedial Investigation |
| SSHP | Site-Specific Safety and Health Plan |
| SVOC | Semi-Volatile Organic Compound |
| SWMU | Solid Waste Management Unit |
| TAPP | Technical Assistance for Public Participation |
| TBD | To Be Determined |
| TNT | Trinitrotoluene |
| TRC | Technical Review Committee |
| USACE | US Army Corps of Engineers |
| USAEC | US Army Environmental Command |
| USEPA | US Environmental Protection Agency |
| UST | Underground Storage Tank |
| USTHAMA | US Toxic and Hazardous Materials Agency |
| UU/UE | Unlimited Use/Unrestricted Exposure |
| UXO | Unexploded Ordnance |
| VOC | Volatile Organic Compound |
| WBPLF | West Burn Pads Landfill |

Installation Information

Installation Locale

Installation Size (Acreage): 19011

City: Middletown

County: Des Moines

State: Iowa

Other Locale Information

The IAAAP consists of 19,011 acres located adjacent to Middletown in Des Moines County, Iowa. It is approximately eight miles west of Burlington, the largest city in Des Moines County, with an estimated population of 25,436 people.

Installation Mission

The IAAAP is an active Joint Munitions Command facility operated by the civilian contractor, American Ordnance LLC. The current mission of the IAAAP is to load, assemble and pack (LAP) ammunition items, including projectiles, mortar rounds, warheads, demolition charges, and munitions components such as fuses, primers, and boosters.

Lead Organization

Army Materiel Command (AMC)

Lead Executing Agencies for Installation

IAAAP

Regulator Participation

Federal

US Environmental Protection Agency (USEPA), Region VII Federal Facilities and Special Emphasis Branch, Superfund Division
US Fish and Wildlife Service (USFWS)

State

Iowa Department of Natural Resources

National Priorities List (NPL) Status

A score of 30 was recorded on 01-AUG-90.

Date for RA(C) Completion:

201810

Date for NPL Deletion: TBD

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

RAB established 199708

Installation Program Summaries

IRP

Primary Contaminants of Concern: Explosives, Metals, Munitions constituents (MC), Pesticides, Polychlorinated Biphenyls (PCB), Radionuclides, Semi-volatiles (SVOC), Volatiles (VOC)

Affected Media of Concern: Groundwater, Sediment, Soil

MMRP

Primary Contaminants of Concern: Explosives, Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC)

Affected Media of Concern: Groundwater, Soil

Installation Information

CR

Primary Contaminants of Concern:

Affected Media of Concern:

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

| Status | Start Date | End Date | End FY |
|----------|------------|----------|--------|
| Complete | 200403 | 200509 | 2005 |
| Complete | 200903 | 201103 | 2011 |
| Planned | 201503 | 201603 | 2016 |

Last Completed 5-Year / Periodic Review Details

| Associated ROD/DD Name | Sites |
|--|--|
| EXPLOSIVE CONTAMINATED SUMPS (ACT. MEMO) | IAAP-001, IAAP-002, IAAP-003, IAAP-004, IAAP-006, IAAP-007, IAAP-008 |
| FINAL SOILS ROD - OU #1 | IAAP-001, IAAP-002, IAAP-003, IAAP-004, IAAP-005, IAAP-006, IAAP-007, IAAP-009, IAAP-010, IAAP-011, IAAP-012, IAAP-015, IAAP-016, IAAP-021, IAAP-032, IAAP-036, IAAP-037, IAAP-040, IAAP-042, IAAP-044 |
| FIRE TRAINING PIT (EE/CA) | IAAP-039 |
| FIRE TRNG PIT ACT. MEMO AND ESD | IAAP-039 |
| INERT LANDFILL (ACTION MEMO) | IAAP-020 |
| INTERIM SOILS ROD - OPERABLE UNIT 1 | IAAP-001, IAAP-002, IAAP-003, IAAP-004, IAAP-005, IAAP-006, IAAP-007, IAAP-009, IAAP-010, IAAP-011, IAAP-012, IAAP-020, IAAP-021, IAAP-032, IAAP-036, IAAP-040 |
| LINE 1 & 800 PINKWATER LAG. REMOVAL (AM) | IAAP-016, IAAP-020, IAAP-044 |
| OFF-POST GRNDWATER ROD - OU #3 | IAAP-046 |
| PESTICIDE PIT (ACT. MEMO) | IAAP-017, IAAP-020 |
| Permanent Potable Water Supply | IAAP-046 |
| Permanent Potable Water Supply Addendum | IAAP-046 |

Results Actions taken were determined to continue to be protective of human health and the environment.

Actions Off-post Groundwater model requires updating and various other minor field adjustments are required.

Plans Issuance of status report for follow on actions is scheduled to be issued in March 2012.

Recommendations and Implementation Plans:

The model will be updated and presented in the follow-on status report and the various minor field adjustments will be corrected as scheduled throughout the year.

Cleanup Program Summary

Installation Historic Activity

The IAAAP was founded in 1941 and has undergone modernization and expansion. In September 1941 production of supplies for World War II began. They ended in August 1945. From 1946 to 1951, the IAAAP was operated by the government to produce ammonium nitrate and to store munitions. Ammunition production resumed in 1949 and has continued to the present. From 1947 to 1975 the former US Atomic Energy Commission operated facilities on the site.

Installation Program Cleanup Progress

IRP

- Prior Year Progress:**
- Continued OU-3 remedy actions.
 - Finalized all OU-4 remedial action completion report (RACR) technical volumes.
 - Continued work on OU-6 feasibility study (FS).
 - Developed a resolution to OU-7 informal dispute with the USEPA.
- Future Plan of Action:**
- Continue OU-3 remedy actions.
 - Finalize OU-4 RACR.
 - Continue work on OU-6 FS.
 - Complete draft OU-7 FS.

MMRP

- Prior Year Progress:**
- Complete FS amendment.
 - Erected fences at PDS and InDA per 2006 dispute resolution.
 - Initiated EE/CA for Historical Small Arms Range.
- Future Plan of Action:**
- Complete proposed plan (PP).
 - Complete EE/CA.
 - Complete ROD.

CR

- Prior Year Progress:**
- CC-001G will continue to be managed under IRP OU-6. Continued work toward supplemental RI.
 - Site CC-01 will continue to be managed under RCRA at the direction of the USEPA.
 - Initiated performance-based acquisition (PBA) contract for construction debris sites (CC-IAAP-001 and CC-IAAP-002).
- Future Plan of Action:**
- Complete RI for construction debris sites (CC-IAAP-001 and CC-IAAP-002).

IOWA ARMY AMMUNITION PLANT
Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 77/16

Installation Site Types with Future and/or Underway Phases

| | |
|----|---|
| 5 | Burn Area (IAAP-012G, IAAP-032, IAAP-032G, IAAP-036, IAAP-039G) |
| 25 | Contaminated Ground Water (IAAP-005G, IAAP-006G, IAAP-007G, IAAP-008G, IAAP-009G, IAAP-013G, IAAP-014G, IAAP-015G, IAAP-016G, IAAP-017G, IAAP-018G, IAAP-022G, IAAP-025G, IAAP-028G, IAAP-030G, IAAP-031G, IAAP-036G, IAAP-037G, IAAP-038G, IAAP-040G, IAAP-041G, IAAP-042G, IAAP-043G, IAAP-046, IAAP-047G) |
| 2 | Disposal Pit/Dry Well (IAAP-013, IAAP-017) |
| 2 | Explosive Ordnance Disposal Area (IAAP-012, IAAP-018) |
| 1 | Fire/Crash Training Area (IAAP-039) |
| 1 | Incinerator (IAAP-025) |
| 5 | Industrial Discharge (IAAP-002G, IAAP-003G, IAAP-004G, IAAP-010G, IAAP-044G) |
| 5 | Landfill (IAAP-020, IAAP-020G, IAAP-028, IAAP-037, PBC at Iowa) |
| 2 | Mixed Waste Area (IAAP-044, IAAP-047) |
| 8 | Spill Site Area (IAAP-002, IAAP-003, IAAP-004, IAAP-005, IAAP-006, IAAP-007, IAAP-009, IAAP-010) |
| 1 | Storage Area (IAAP-040) |
| 1 | Surface Disposal Area (IAAP-015) |
| 2 | Surface Impoundment/Lagoon (IAAP-016, IAAP-041) |
| 1 | Waste Treatment Plant (IAAP-038) |

Most Widespread Contaminants of Concern

Explosives, Metals, Munitions constituents (MC), Pesticides, Polychlorinated Biphenyls (PCB), Radionuclides, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Sediment, Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

| Site ID | Site Name | Action | Remedy | FY |
|----------|--|--------|---|------|
| IAAP-042 | ABANDONED COAL STORAGE YARD | FRA | WASTE REMOVAL - SOILS | 1994 |
| IAAP-046 | OFF POST CONTAMINATION | IRA | ALTERNATE WATER SUPPLY/WATER SUPPLY TREATMENT | 1995 |
| IAAP-017 | PESTICIDE PIT | IRA | WASTE REMOVAL - SOILS | 1996 |
| IAAP-016 | LINE 1 FORMER WASTEWATER IMPOUNDMENT | FRA | WASTE REMOVAL - SOILS | 1997 |
| IAAP-012 | EXPLOSIVE DISPOSAL AREA (EAST BURN PADS) | FRA | WASTE REMOVAL - SOILS | 1999 |
| IAAP-037 | NORTH BURN PADS LANDFILL | FRA | REMOVAL | 1999 |

IRP Summary

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

| Site ID | Site Name | Action | Remedy | FY |
|----------|---|--------|---|------|
| IAAP-039 | FIRE TRAINING PIT | IRA | THERMAL DESORPTION | 1999 |
| IAAP-039 | FIRE TRAINING PIT | IRA | WASTE REMOVAL - SOILS | 1999 |
| IAAP-006 | LINE 5A AND 5B AMMO ASSEMBLY | FRA | WASTE REMOVAL - SOILS | 2000 |
| IAAP-011 | LINE 800 AMMO RENOV | IRA | REMOVAL | 2000 |
| IAAP-020 | INERT DISPOSAL AREA | IRA | CAPPING | 2000 |
| IAAP-021 | DEMOLITION AREA/DEACTIVATION FURNACE | IRA | WASTE REMOVAL - SOILS | 2000 |
| IAAP-040 | ROUNDHOUSE TRANSFORMER STORAGE AREA | IRA | WASTE REMOVAL - SOILS | 2000 |
| IAAP-044 | LINE 800 & PINKWATER LAGOON | IRA | WASTE REMOVAL - SOILS | 2000 |
| IAAP-045 | FORMER FUEL STATION UST'S | FRA | EX SITU SOIL TREATMENT | 2002 |
| IAAP-046 | OFF POST CONTAMINATION | IRA | ALTERNATE WATER SUPPLY/WATER SUPPLY TREATMENT | 2002 |
| IAAP-032 | BURN CAGES, BCLF; WEST BURN PADS, WBPLF | FRA | WASTE REMOVAL - SOILS | 2003 |
| IAAP-039 | FIRE TRAINING PIT | IRA | WASTE REMOVAL - SOILS | 2004 |
| IAAP-005 | LINE 4A AND 4B AMMO ASSEMBLY | FRA | WASTE REMOVAL - SOILS | 2005 |
| IAAP-009 | LINE 8 AMMO LAP(FUZE/ROCKET) | FRA | WASTE REMOVAL - SOILS | 2005 |
| IAAP-010 | LINE 9 AMMO LAP (MINE) | FRA | WASTE REMOVAL - SOILS | 2005 |
| IAAP-040 | ROUNDHOUSE TRANSFORMER STORAGE AREA | FRA | REMOVAL | 2005 |
| IAAP-002 | LINE 2 AMMO LAP(ARTILLERY/SHAPE) | FRA | WASTE REMOVAL - SOILS | 2007 |
| IAAP-003 | LINE 3 AMMO LAP (ARTILLERY) | FRA | WASTE REMOVAL - SOILS | 2007 |
| IAAP-046 | OFF POST CONTAMINATION | FRA | GROUND WATER TREATMENT | 2007 |
| IAAP-013 | INCENDIARY DISPOSAL AREA (EAST YARD D) | FRA | WASTE REMOVAL - SOILS | 2008 |
| IAAP-018 | POSSIBLE DEMOLITION SITE(SOUTH YARD G) | FRA | WASTE REMOVAL - SOILS | 2008 |
| IAAP-047 | Central Test Area | FRA | REMOVAL | 2008 |
| IAAP-020 | INERT DISPOSAL AREA | FRA | CAPPING | 2011 |

Duration of IRP

Date of IRP Inception: 197803

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201801/204709

Date of IRP completion including Long Term Management (LTM): 204709

IRP Contamination Assessment

Contamination Assessment Overview

The IAAAP is located on US Highway 34, approximately eight miles west of Burlington, Iowa. The facility is a government owned/contractor operated (GO/CO) military industrial installation under the jurisdiction of the US Army Joint Munitions Command, headquartered in Rock Island, Illinois. Its primary mission is to manufacture and LAP ammunition items.

The plant was established in July 1941 as the Iowa Ordnance Plant. The plant's mission was to LAP ammunition. It produced munitions for World War II until August 1945 when plant operations reverted to US Army control. Until 1951 its mission was the storage of ammunition and surveillance. From 1947 to 1975 the former US Atomic Energy Commission occupied portions of the IAAAP. Since 1951, when Mason and Hanger-Silas Mason Co., Inc. began operations, the plant has been a GO/CO. The IAAAP is currently an active installation.

The primary source of contamination at the site is attributable to past operating practices during which explosives-contaminated wastewater and sludge were discharged to uncontrolled on-site lagoons and impoundments. Additional sources of contamination included open burning (OB) of explosives materials and munitions and land filling of waste material. Currently, process wastewaters are treated and recycled, while only a small portion of the treated wastewater, containing residual explosives and other contaminants regulated under the plant's national pollutant discharge elimination system (NPDES) permit, is discharged to the surface.

In August 1989, the installation was proposed for the national priorities list (NPL), because surface water contaminated with explosives was leaving the installation boundary. The IAAAP hazard ranking system (HRS) score is 29.73. It was placed on the NPL in August 1990. In September 1990, a federal facility agreement (FFA) was signed by the USEPA, Region VII and the US Army; it became effective in December 1990.

The FFA originally listed 30 solid waste management units (SWMU) as IAAP-1 through IAAP-30; these sites are represented in the AEDB-R as sites IAAP-001 through IAAP-030. The Deactivation Furnace Site, IAAP-023, has been merged with the Demolition Area Site, IAAP-021, because it is located within the confines of the demolition area. Since publication of the FFA, sites IAAP-031 through IAAP-043 were identified in the February 1991 US Army Toxic and Hazardous Material Agency (USATHAMA) draft potential AOCs supplement document. Sites IAAP-032 through IAAP-035 were collectively listed under the number IAAP-032, because of their proximity to one another. The Line 800 Pinkwater Lagoon was added as IAAP-044. In the fall 1999 AEDB-R submission, the former fuel station underground storage tanks (UST) site (IAAP-045) was added. This site was separated from IAAP-006 to better manage the soil and groundwater cleanup efforts from the 1988 leaking UST removal. Sites IAAP-046 and IAAP-047 were created to address the off-post groundwater and the Central Test Area, respectively.

PBC at Iowa was established to manage sites covered under PBA in 2004. In fiscal year (FY) 2002, nine groundwater designated sites were created to better manage groundwater cleanup. They are IAAP-002G, IAAP-003G, IAAP-004G, IAAP-010G, IAAP-012G, IAAP-020G, IAAP-032G, IAAP-039G and IAAP-044G. Two other sites, IAAP-011, IAAP-044, were consolidated so they can be better managed, as they are contiguous. In 2012, the remaining groundwater sites were established to manage costs and actions associated with groundwater and surface water cleanup.

In 1991 the preliminary assessment (PA)/site inspection (SI) was conducted. In 1996 the site-wide RI was completed. The interim operable unit (OU)-1 soils ROD, signed in March 1998, addressed the excavation, relocation and placement of contaminated soils from 15 sites to the IDA, IAAP-020.

The final soils ROD, signed in September 1998, addressed the treatment of the most highly contaminated fraction of that soil.

In July 2002, portions of the IAAAP used by the former US Atomic Energy Commission were designated by the US Army Corps of Engineers (USACE) to be under the formerly utilized sites remedial action program (FUSRAP). Thus far, seven FUSRAP areas have been identified. These include Line 1 (IAAP-001), Firing Sites Area (IAAP-030), West Burn Pads Area [south of the road] (part of IAAP-032), Warehouse 3-01 (located in IAAP-003), Yard G, Yard C, and Yard L (near Warehouse L-1, -2, -3). Additionally, four areas were screened by FUSRAP in 2004 to determine if radiological contaminants from USAEC were present. These screening areas include the IDA (IAAP-020), Demolition Area/Deactivation Furnace (IAAP-021), Former Line 1 Impoundment (IAAP-016), and the explosive disposal area. The explosive disposal area includes the North Burn Pads (IAAP-036), North Burn Pads Landfill (IAAP-037), the West Burn Pads [area north of road] (part of IAAP-032), and the East Burn Pads (part of IAAP-032). No radiological contamination attributable to the US Atomic Energy Commission was found at a screening area. The USACE will respond to all releases and threats of releases of hazardous substances, pollutants, or contaminants, with the exception of ground and surface water contamination, at all FUSRAP areas.

IRP Contamination Assessment

Contamination Assessment Overview

The OUs were re-structured in October 2009. They are identified as follows:

- OU-1: Soils OU (no change from previous structure)
- OU-3: Off-site Groundwater OU (formerly addressed off-site and on-site groundwater)
- OU-4: IDA Closure OU (formerly installation-Wide OU)
- OU-5: MMRP OU (no change from previous structure)
- OU-6: On-site Groundwater OU (includes IDA)
- OU-7: Installation-Wide OU (former OU-4 without IDA)
- OU-8: FUSRAP Specific OU, no relevance to IRP
- OU-9: Contingency Soils Remedy OU (now Construction Debris Sites OU)

In 2004 six sites were transferred from IRP action to Compliance-related Cleanup (CC) action. They were:

- IAAP-019, Contaminated Clothing Laundry
- IAAP-021, Demolition Area/Deactivation Furnace
- IAAP-024, Contaminated Waste Processor
- IAAP-026, Main Sewage Treatment Plant/Drying Beds
- IAAP-027, Fly Ash Landfill
- IAAP-029, Line 3A Sewage Treatment Plant/Drying Beds

In FY06, OU5 was established to address the Military Munitions Response Program (MMRP) sites. Through the MMRP, a total of eight sites have been established at IAAAP.

In FY08, a ROD was signed for site IAAP-020, allowing for the closure of the IDA.

In 2009, the Contaminated Clothing Laundry was transferred to back to the IRP and identified as site CC-01. The CC planned to complete the corrective measures study (CMS) at this site and the IRP was to continue subsequent actions.

In 2009, the Army identified two construction debris sites that require assessment and possible action. In 2013, these sites were designated as OU9. All media at these sites are addressed under this OU.

Cleanup Exit Strategy

A performance-based contract (PBC) was awarded in 2004 to bring all the IRP sites to remedy-in-place (RIP)/response complete (RC).

This succeeded for all but OU-6, OU-7, and OU-9. Another PBA action is necessary to reach RIP/RC for these areas.

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| 1980 | Contamination Survey Scope of Work | Unknown | JAN-1980 |
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| 1981 | Evaluation of Pinkwater Lagoon, Line 6 and Line 4A | SCS Engineers | SEP-1981 |
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| | Subsurface Investigation at Site Z-1 (Abandoned Pinkwater Lagoon) at Iowa Army Ammunition Plant | SCS Engineers | FEB-1982 |
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| | Final Work Plan for Remedial Investigation/Feasibility Study (also known as the Site Investigation of Iowa Army Ammunition Plant) | US Army Toxic and Hazardous Materials Agency | JUN-1992 |
| | Risk Assessment Protocol Document for the RI/FS | Jaycor | OCT-1992 |
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| Final Fire Training Pit Groundwater Remedial Alternative Analysis | URS Corporation | MAY-2004 |
| Draft Final Remedial Action Work Plan for Soil Excavation Phase 4 Soil Sites | Shaw Environmental, Inc. | MAY-2004 |
| Final East Burn Pads Groundwater Remedial Alternative Analysis | URS Corporation | JUN-2004 |
| Final West Burn Pads Groundwater Investigation | URS Corporation | JUN-2004 |
| Draft Technical Memorandum No. 5 for the Baseline Ecological Risk Assessment | US Army Corps of Engineers | JUL-2004 |
| Revised Draft Final Off-Site Groundwater Proposed Plan | URS Corporation | JUL-2004 |
| Draft After Action Report Installation & Maintenance of Monitoring Well Roadways | MKM Engineers, Inc. | JUL-2004 |
| Public Meeting Transcript for Off-Post Groundwater Proposed Plan | URS Corporation | JUL-2004 |
| Former Fuel Station No Further Action Documentation | Trileaf Corporation | AUG-2004 |
| Draft Final Historical Records Review for Line 6, Line 800, Central Test Area, and Deactivation Furnace | TN & Associates | OCT-2004 |
| Draft Final Baseline Ecological Risk Assessment | Montgomery Watson Harza | OCT-2004 |
| Draft Final Off-Site Groundwater Treatability Study Test Plan for Insitu Biodegradation of RDX in Off-Site Groundwater | Tetra Tech, Inc. | NOV-2004 |
| Draft Final Brush Creek Point Source Control Work Plan | Tetra Tech, Inc. | NOV-2004 |
| Draft Final 2003 Groundwater Monitoring Report | Hydrogeologic | DEC-2004 |

2005

| | | |
|---|--------------------------|----------|
| Draft Final Historical Records Review for Line 2, Line 3, Line 3A, Incendiary Disposal Area, Old Fly Ash Waste Pile, Possible Demolition Site, Explosives Waste Incinerator, Construction Debris Landfill, and Line 3A Pond | Shaw Environmental, Inc. | JAN-2005 |
| Draft Final 2004 Groundwater Monitoring Report | Hydrogeologic | FEB-2005 |
| Draft Final Treatability Study Test Plan for In Situ Biodegradation of On-Post Groundwater | Tetra Tech, Inc. | APR-2005 |
| Final Brush Creek Point Source Control Treatment System Design | Tetra Tech, Inc. | MAY-2005 |
| Draft Final Report for the Soil Data Collection at The Incendiary Disposal Area, Fly Ash Waste Pile, Possible Demolition Site, Line 3A Pond, Explosive Waste Incinerator and Construction Debris Landfill | MKM Engineers, Inc. | MAY-2005 |
| Draft Final MEC Density Survey Report for Line 6 and the Central Test Area | MKM Engineers, Inc. | MAY-2005 |
| Revised Draft Final Off-Site Groundwater Record of Decision | URS Corporation | JUN-2005 |
| Revised Draft Final Remedial Design/Remedial Action Work Plan and Sampling & Analysis Plan Addendum Soils OU1 | Tetra Tech, Inc. | JUN-2005 |

IRP Previous Studies

Title

Author

Date

2005

| | | |
|---|---|----------|
| IDA Topographical Survey | Martin & Whitacre Surveyors & Engineers, Inc. | JUL-2005 |
| Draft Addendum Remedial Action Report for the Fire Training Pit Removal Action Appendix B | Environmental Chemical Corporation | JUL-2005 |
| Final Remedial Action Report Phase 4 Soil Sites OU1 | Shaw Environmental, Inc. | AUG-2005 |
| Draft Final Addendum Remedial Action Report for the Fire Training Pit | Environmental Chemical Corporation | AUG-2005 |
| Draft Final 2004-2005 Groundwater Sampling Report | Tetra Tech, Inc. | DEC-2005 |
| Draft Final Site Safety and Health Plan Remedial Design/Remedial Action Activities | Tetra Tech, Inc. | DEC-2005 |

2006

| | | |
|---|------------------|----------|
| Draft Final Work Plan for Soil Sampling Line 7 Decontamination and Decommissioning Activities | Tetra Tech, Inc. | JAN-2006 |
| Draft Final Rev. 1 Brush Creek Surface Water and Sediment Investigation Work Plan OU4 | Tetra Tech, Inc. | FEB-2006 |
| Final Five-Year Review Report | Tetra Tech, Inc. | MAR-2006 |
| Draft Final Rev. 2 Soil Treatability Test Plan for Bioremediation of Explosives in Trench 7 (CAMU) | Tetra Tech, Inc. | MAR-2006 |
| Draft Final Rev. 2 Work Plan for Supplemental Remedial Investigation OU4 | Tetra Tech, Inc. | MAY-2006 |
| Final Operation and Maintenance Manual for Brush Creek Point Source Control Treatment System | Tetra Tech, Inc. | JUN-2006 |
| Final ESD for Deletion of Radiological Contaminants from Interim Record of Decision (Irod) Soils OU1 | Tetra Tech, Inc. | JUN-2006 |
| Final Treatability Study Results for In Situ Enhanced Degradation of Off-Site Groundwater | Tetra Tech, Inc. | AUG-2006 |
| Final Comprehensive (Brush Creek, Spring Creek, Long Creek, and Skunk River) Watersheds Evaluation and Supplemental Data Collection Work Plan | Tetra Tech, Inc. | DEC-2006 |

2007

| | | |
|---|------------------|----------|
| Final Focused Feasibility Study for Trench 6, Trench 7, and the Cap Extension Area of the Inert Disposal Area Operable Unit 4 | Tetra Tech, Inc. | JAN-2007 |
| Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area of the Inert Disposal Area | Tetra Tech, Inc. | MAY-2007 |
| Draft Final Excavation Plan for Remedial Action for Phases 5, 7, and 8 of OU1 | Tetra Tech, Inc. | JUL-2007 |
| Concentration Trends for Selected Wells and Parameters | Tetra Tech, Inc. | AUG-2007 |

2008

| | | |
|---|------------------|----------|
| Work Plan for Unexploded Ordnance (UXO) Support Work Site Investigation BLDG 600-84 | PA Weber, LC | JAN-2008 |
| Final Report for Unexploded Ordnance (UXO) Scan Work BLDG 600-84 | PA Weber, LC | JAN-2008 |
| ESD for the Interim Action Record of Decision (Irod) Soils OU1 - Addition of Environmental Protectiveness to the Remedy and Transfer of Sites from OU4 to OU1 | Tetra Tech, Inc. | JUN-2008 |
| Progress Report: Evaluation of Phase 1 and Phase 2 Brush Creek Sediment and Surface Water Data and Recommendations for Phase 3 Sampling in Brush Creek | Tetra Tech | JUL-2008 |

IRP Previous Studies

| | Title | Author | Date |
|------|---|-------------------|----------|
| 2008 | Draft Final Rev. 1 Interim Action Record of Decision for Trench 6, Trench 7, and the Cap Extension Area of the Inert Disposal Area in Soils OU4 | Tetra Tech | SEP-2008 |
| 2009 | Final Operation and Maintenance Plan for IDA, Line 1 Impoundment, and Line 800 Lagoon | Tetra Tech | FEB-2009 |
| | Technical Memorandum Offsite Brush Creek Supplemental Surface Water and Groundwater Sampling | Tetra Tech | FEB-2009 |
| | Final 2006 Groundwater Sampling Report | Tetra Tech | FEB-2009 |
| | Final 2007 Groundwater Sampling Report | Tetra Tech | FEB-2009 |
| | Final Technical Memorandum Full-Scale Treatability Study for In Situ Biodegradation of On-Post Groundwater | Tetra Tech | FEB-2009 |
| | Final Operations and Maintenance Optimization Plan at the Inert Disposal Area, Line 1 Impoundment, and Line 800 Lagoon | Tetra Tech | FEB-2009 |
| | Final Technical Memorandum Cesium Source Evaluation | Tetra Tech | FEB-2009 |
| | Status Report for Soil Chemical Treatment, Inert Disposal Area | Tetra Tech | MAR-2009 |
| | Final Remedial Design/Remedial Action Work Plan for Offsite Groundwater | Tetra Tech | APR-2009 |
| | Final Remedial Action Work Plan for Closure of the Cap Extension Area (CEA) | Tetra Tech | APR-2009 |
| | Final Construction QA/QC Plan (Attachment 1 to the Remedial Action Work Plan for Closure of the CEA) | Tetra Tech | MAY-2009 |
| | Technical Memorandum Offsite Brush Creek Supplemental Surface Water and Groundwater Results Collected March/April 2009 | Tetra Tech | JUN-2009 |
| | Final Brush Creek Point Source Control Treatment System Report | Tetra Tech | JUN-2009 |
| | Final ESD for the Final Record of Decision Soils OU1 Change of Primary Treatment Technology from Biological to Alkaline Hydrolysis Chemical Treatment | Tetra Tech | SEP-2009 |
| | Final Technical Memorandum for Soil Treatment Results for Alkaline Hydrolysis in Trench 6 Inert Disposal Area | Tetra Tech | NOV-2009 |
| | Draft Final Offsite Groundwater Remediation Progress Report One (October 2007-February 2008) | Tetra Tech | NOV-2009 |
| | Final Offsite Groundwater Remediation Progress Report Two (February 2008-October 2008) | Tetra Tech | NOV-2009 |
| 2010 | Final Remedial Action Report for Biological Soil Treatment at the Inert Disposal Area | Tetra Tech | JAN-2010 |
| | Final Remedial Action Completion Report for OU1 Soils Phase 5, 7, and 8 Sites and Installation-wide Ecological Evaluation | Tetra Tech | SEP-2010 |
| | Draft Final Rev. 1 Construction and Management Plan for the 40mm Test Range | American Ordnance | NOV-2010 |
| 2011 | Final Five-Year Review Report | Tetra Tech | MAR-2011 |

IRP Previous Studies

Title

Author

Date

2011

| | | |
|---|------------|----------|
| Final ESD for the Final Record of Decision Soils OU1 Addition of Soil Volume, Site-specific Remedial Goal For Barium, and Off-site Disposal of Contaminated Soil | Tetra Tech | MAR-2011 |
| Final Work Plan for Supplemental Remedial Investigation of Groundwater and Surface Water at Line 1 | Tetra Tech | MAY-2011 |
| Final Community Relations Plan Update | Tetra Tech | JUL-2011 |
| Final OU4 RACR Volume 1 Capping of the Cap Extension Area | Tetra Tech | JUL-2011 |
| Final OU4 RACR Volume 3 Soil Treatment Activities | Tetra Tech | JUL-2011 |
| Final Off-site Groundwater Annual Report and Sampling and Analysis Plan | Tetra Tech | AUG-2011 |
| Final Rev. 3 Supplemental Remedial Investigation Operable Unit 7 | Tetra Tech | AUG-2011 |
| Final Remedial Design/Remedial Action Work Plan for Capping of Trench 6, The Removal of Trench 7 and the Removal of Sediment Ponds 6 and 7 (Includes the Construction Quality Assurance/Quality Control Plan) | Tetra Tech | AUG-2011 |

2012

| | | |
|---|------------|----------|
| Final Offsite Groundwater Annual Report and Sampling and Analysis Plan | Tetra Tech | JUL-2012 |
| Follow-up Report to the Five-Year Review Report | Tetra Tech | JUL-2012 |
| Final OU3 Offsite Groundwater Annual Report and Sampling and Analysis Plan | Tetra Tech | JUL-2012 |
| Final OU4 RACR Vol 2 Parts 1 of 3, 2 of 3 and 3 of 3, Capping of Trench 6 and the Removal of Trench 7 | Tetra Tech | OCT-2012 |

2013

| | | |
|---|------------|----------|
| Final OU4 Remedial Action Completion Report (OU4 RACR) Volume 4 - Land Use Controls, Long-Term Monitoring, and Operation and Maintenance Plan for the Inert Disposal Area (IDA) | Tetra Tech | JAN-2013 |
| Final OU4 Remedial Action Completion Report (OU4 RACR) Volume 5 - Removal of Sediment Ponds CEA, 6 and 7 | Tetra Tech | FEB-2013 |
| Final RCRA Facility Investigation Work Plan for Groundwater at Contaminated Clothing Laundry | Tetra Tech | MAR-2013 |

IOWA ARMY AMMUNITION PLANT
Installation Restoration Program
Site Descriptions

Site ID: IAAP-002

Site Name: LINE 2 AMMO LAP(ARTILLERY/SHAPE)

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Explosives, Metals

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 199012..... | 199605 |
| RD..... | 200406..... | 200611 |
| RA(C)..... | 200406..... | 200709 |
| LTM..... | 200709..... | 204309 |

RIP Date: N/A

RC Date: 200709

SITE DESCRIPTION

The IRP site consists of the soil contamination from past munitions production. Any contamination from current activities will be addressed under compliance [non-Environmental Restoration, Army (ER,A) funding]. The past contamination has resulted from the practice of washing spilled explosives from floors, equipment and sump failures.

Line 2 is a production line that has been in operation since the inception of IAAP, except for a brief hiatus from 1947 to 1949, and occupies nearly 140 acres, including 31 buildings and covered walkways. It is used to LAP 120 millimeter (mm) ammunition and blank ammunition. The melt building appears to be where the highest volumes of wastes were produced. The buildings include equipment rooms, explosives magazines and nine sump buildings.

The PA/SI was completed in 1991, and an initial RI was completed in May 1996. The interim soil ROD requires the removal of an estimated 1950 cubic yards (cy) of soil contaminated with metals and explosives to be taken to the IDA (IAAP-020) and sorted. Per the final ROD, this soil was treated and placed in Trench 6 or underneath the overall cap depending upon cumulative risk levels.

Please note that not all contaminated soil was removed due to inaccessibility or the threat to structural integrity of production buildings. Information on contamination left in place may be found in the RACR.

Only installation operational controls incorporated as best management practices such as dig notices and National Environmental Policy Act (NEPA) apply. No further IRP action is expected to be taken as this is an active production area.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above unlimited use/unrestricted exposure (UU/UE) remains.

Site ID: IAAP-002G

Site Name: LINE 2 AMMO LAP - GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

Except for a brief hiatus from 1947 to 1949, Line 2 is a production line that has been in operation since the inception of IAAP. It occupies nearly 140 acres, including 31 buildings and covered walkways, and is used to LAP tank ammunition and blank ammunition. The melt building appears to be where the highest volumes of wastes were produced. The buildings include equipment rooms, explosives magazines, and nine sump buildings.

This IRP site consists of groundwater contamination from past munitions production. Any contamination from current activities will be addressed under CC (non-ER,A funding or existing operating contract). The past contamination resulted from the practice of washing spilled explosives from floors and equipment, from spillages resulting from sump failures, and operational effluent.

Trinitrotoluene (TNT) and cyclotrimethylenetrinitramine (RDX) in concentrations greater than 2,500 part per billion (ppb) have been found in the groundwater in shallow localized plumes within 30 feet of the ground surface.

In 1991 the PA/ SI was completed and in May 1996 an initial RI was completed. In 2003, a supplemental RI was completed to fill groundwater data gaps found in the May 1996 RI. In 2004-2006, the comprehensive watersheds evaluation and supplemental data collection was completed. In 2005, treatability studies were completed. OU6 FS is currently underway.

This site was separated from IAAP-002 to better manage groundwater cleanup and allow clearer reporting for phase completions and funding allocation.

Phase progress will be tracked at this site, but funding requirements will be tracked under the site PBC at Iowa. Post PBC costs will be covered under site IAAP-020.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-003

Site Name: LINE 3 AMMO LAP (ARTILLERY)

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Explosives, Metals, Radionuclides,
Semi-volatiles (SVOC)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199105 |
| RI/FS..... | 199012..... | 199605 |
| RD..... | 200408..... | 200611 |
| RA(C)..... | 200406..... | 200709 |
| LTM..... | 200709..... | 204309 |

RIP Date: N/A

RC Date: 200709

SITE DESCRIPTION

The IRP site consists of the contamination from past munitions production. Any contamination from current activities will be addressed under compliance (non-ER,A funding). The practice during the early years of production was to dispose of wastewater at the Line 800 Pinkwater Lagoon. This line was upgraded to include self-contained Pinkwater reroute systems in July 1995 and September 1998.

Line 3 is a production line that has been in operation since 1941, except for a short time between 1945 and 1949. This line fills and assembles artillery projectiles, occupies about 150 acres and consists of 26 buildings and covered walkways. The buildings include equipment rooms, explosives magazines, and nine sump buildings for explosive waste processing. The two melt buildings appear to be the areas where the highest volumes of wastes were produced during operations.

From 1977 to 1984, metal cleaning operations were conducted at Line 3. This process consisted of several stainless steel dip tanks where ammunition casings were immersed in a sulfuric/hydrochloric acid bath, followed by a chromic acid rinse, then rinsed with water. Sludge that accumulated in the bottom of the sulfuric acid tank was removed and treated with sodium hydroxide.

The PA/SI was completed in 1991, and an initial RI was completed in May 1996. The interim ROD requires the removal of an estimated 3,500 cy contaminated with metals, explosives and SVOCs. This soil was excavated and taken to the IDA (IAAP-020) and sorted by contaminant level and type.

Per the final ROD, this soil was treated and placed in Trench 6 or underneath the overall cap depending upon cumulative risk levels.

Please note that not all contaminated soil was removed due to inaccessibility or the threat to structural integrity of production buildings. Information on contamination left in place may be found in the RACR.

Building 3-01 will be addressed under FUSRAP.

Only installation operational controls incorporated as best management practices such as dig notices and NEPA apply. No further IRP action is expected to be taken as this is an active production area.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-003G

Site Name: LINE 3 AMMO LAP - GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

Except for a short time between 1945 and 1949, Line 3 is a production line that has been in operation since 1941. This line fills and assembles artillery projectiles and occupies about 150 acres, consisting of 26 buildings and covered walkways. The buildings include equipment rooms, explosives magazines, and nine sump buildings for explosive waste processing. The two melt buildings appear to be the areas where the highest volumes of wastes were produced during operations.

This IRP site consists of groundwater contamination from past munitions production. The contamination occurred primarily because the historical practice of uncontrolled releases from sumps, washdowns, and operational effluent. The practice during the early years of production was to dispose of some of the wastewater at the Line 800 Pinkwater Lagoon. In July 1995 and September 1998 this line was upgraded to include self-contained Pinkwater reroute systems. Any contamination from current activities will be addressed under CC (non-ER,A) funding or existing operating contract.

From 1977 to 1984, metal cleaning operations were conducted at Line 3. That process consisted of several stainless steel dip tanks where ammunition casings were immersed in a sulfuric/hydrochloric acid bath, followed by a chromic acid rinse, then rinsed with water. Sludge that accumulated in the bottom of the sulfuric acid tank was removed and treated with sodium hydroxide.

RDX in low concentrations has been found in the groundwater in a shallow localized plume within 30 feet of the ground surface. Recent data shows a downward trend in groundwater concentrations.

In 1991 the PA/ SI was completed and in May 1996 an initial RI was completed. In 2003, a supplemental remedial investigation (SRI) was completed to fill groundwater data gaps found in the May 1996 RI. In 2004-2006, the comprehensive watersheds evaluation and supplemental data collection was completed. In 2005, treatability studies were completed. OU-6 FS is currently underway.

Phase progress will be tracked at this site, but funding requirements will be tracked under site PBC at Iowa. Post PBC costs will be covered under site IAAP-020.

CLEANUP/EXIT STRATEGY

The current exit-strategy includes preparation of a risk based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-004

Site Name: LINE 3A AMMO LAP (ARTILLERY)

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Explosives, Metals

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 199012..... | 199605 |
| RD..... | 200408..... | 200611 |
| RA(C)..... | 200406..... | 200709 |
| LTM..... | 200709..... | 204309 |

RIP Date: N/A

RC Date: 200709

SITE DESCRIPTION

The IRP site consists of the contamination from past munitions production. Any contamination from current activities will be addressed under compliance (non-ER,A funding). This line was upgraded to include a self-contained Pinkwater Reroute System in December 1996.

Line 3A was constructed in 1941 and began operations in 1943. The line was shut down from 1945 to 1949 then resumed operations until 1989. Line 3A encompasses 119 acres and is currently active. The line is a LAP operation for 155 mm artillery rounds. The melt building appears to be the area where the highest volumes of wastes were produced during operations.

Metal cleaning operations were conducted here. The process included several stainless steel dip tanks, where ammunition casings were immersed in a sulfuric/hydrochloric acid bath, followed by a chromic acid bath and water rinsing.

The PA/SI was completed in 1991, and an initial RI was completed in May 1996. The interim ROD requires the removal of soil contaminate with explosives and metals. This soil was excavated and taken to the IDA (IAAP-020), and sorted by contaminant level and type.

Per the Final ROD, this soil was treated and placed in Trench 6 or underneath the overall cap depending upon cumulative risk levels.

Please note that not all contaminated soil was removed due to inaccessibility or the threat to structural integrity of production buildings. Information on contamination left in place may be found in the RACR.

Only installation operational controls incorporated as best management practices such as dig notices and NEPA apply. No further IRP action is expected to be taken as this is an active production area.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-004G

Site Name: LINE 3A AMMO LAP - GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199105 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

Line 3A was constructed in 1941 and began operations in 1943. The line was shut down from 1945 to 1949, and then resumed operations until 1989. It is currently an active LAP operation encompassing 119 acres. The melt building appears to be the area where the highest volumes of wastes were produced during operations.

This IRP site consists of the groundwater contamination from past munitions production. Any contamination from current activities will be addressed under CC (non-ER,A) funding. In December 1996 this line was upgraded to include a self-contained Pinkwater reroute system.

Metal cleaning operations were conducted here. The process included several stainless steel dip tanks where ammunition casings were immersed in a sulfuric/hydrochloric acid bath, followed by a chromic acid bath and water rinsing.

Two isolated, shallow plumes (RDX, low level) have been identified.

The PA/SI was completed in 1991 and in May 1996 an initial RI was completed. In 2004-2006, the comprehensive watersheds evaluation and supplemental data collection was completed. In 2005, treatability studies were completed. OU6 FS is currently underway.

Phase progress will be tracked at this site, but funding requirements will be tracked under site PBC at Iowa. Post PBC costs will be covered under site IAAP-020.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-005

Site Name: LINE 4A AND 4B AMMO ASSEMBLY

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 199012..... | 200101 |
| RD..... | 200209..... | 200305 |
| RA(C)..... | 200305..... | 200508 |
| LTM..... | 200508..... | 204309 |

RIP Date: N/A

RC Date: 200508

SITE DESCRIPTION

Lines 4A and 4B are an assembly facility. Hazardous Substances of concern are TNT, RDX, composition B, HMX AND LX-14.

The PA/SI was completed in 1991, and an initial RI was completed in May 1996. The interim soil ROD requires the removal of explosives contaminated soil. However, sampling during RD could not recreate RI data. Therefore, the final remedial action report for Phase V soils indicates that no soil removal was necessary.

Only installation operational controls incorporated as best management practices such as dig notices and NEPA apply. No further IRP action is expected to be taken as this is an active production area.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-005G

Site Name: LINE 4A/4B AMMO ASSEMBLY GROUNDATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

Lines 4A and 4B are an assembly facility. Hazardous substances of concern are TNT, RDX, composition B, HMX and LX-14.

The IRP will address groundwater under OU-6. Preparation of the FS is currently underway. Phase schedule is tracked via this site. Funding requirements are tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-006

Site Name: LINE 5A AND 5B AMMO ASSEMBLY

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Explosives, Metals

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 199012..... | 199808 |
| RD..... | 199804..... | 199808 |
| RA(C)..... | 199808..... | 199911 |
| LTM..... | 199911..... | 204309 |

RIP Date: N/A

RC Date: 199911

SITE DESCRIPTION

Lines 5A and 5B are booster lines. Both areas are currently inactive and partially removed under the Facility Reduction Program. Principal explosives used at both lines were TNT and RDX.

The PA/SI was completed in 1991, and an initial RI was completed in May 1996. The interim soil ROD requires the removal of soil contaminated with metals and explosives to be taken to the IDA (IAAP-020) and sorted. Per the final ROD, this soil was treated and placed in Trench 6 or underneath the overall cap depending upon cumulative risk levels.

Please note that not all contaminated soil was removed due to inaccessibility or the threat to structural integrity of production buildings. Information on contamination left in place may be found in the RACR.

Only installation operational controls incorporated as best management practices such as dig notices and NEPA apply. No further IRP action is expected to be taken as this is an active production area.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-006G

Site Name: LINE 5A/5B AMMO ASSMBLY GROUNDWATER

STATUS

Regulatory Driver: CERCLA
RRSE: NOT EVALUATED
Contaminants of Concern: Explosives, Metals
Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |
| RIP Date: | 201801 | |
| RC Date: | 204309 | |

SITE DESCRIPTION

Lines 5A and 5B are booster lines. Both areas are currently inactive and partially removed under the Facility Reduction Program. Principal explosives used at both lines were TNT and RDX.

Groundwater and surface water is being addressed as part of the FS under OU-6. OU-6 Phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-007

Site Name: LINE 6 AMMO PRODUCTION(DETONATOR)

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Explosives, Metals

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 197803..... | 199105 |
| SI..... | 197803..... | 199108 |
| RI/FS..... | 199012..... | 200001 |
| RD..... | 200206..... | 200611 |
| RA(C)..... | 200406..... | 200709 |
| LTM..... | 200709..... | 204309 |

RIP Date: N/A

RC Date: 200709

SITE DESCRIPTION

The IRP site only consists of the soil contamination from past munitions production. Any contamination from current or future activities will be addressed under compliance (non-ER,A funding).

Line 6 is a detonator production area encompassing 30 acres and located in the center of the installation. Constructed in 1941 and operated until 1981, this line is currently inactive. Line 6 consists of 34 buildings for the production, storage, and shipping of detonators, relays, and hand grenade fuses.

The primary waste stream was related to the production of detonators and included lead azide, lead styphnate, tetracene, RDX, barium nitrate and mercury fulminate. Treatment of black powder was performed in Building 6-68 as a RCRA permitted unit. This unit underwent RCRA closure in 1995 and will no longer be maintained or used by the Army (modified caretaker status). As part of the RCRA closure, 800 cy of contaminated soil were removed in 1994.

The PA/SI was completed in 1991, and an initial RI was completed in May 1996. The interim ROD requires the removal of soil contaminated with metals that was not addressed under the RCRA closure. This soil was excavated and taken to the IDA (IAAP-020) and sorted by contaminant level and type. The principal concern at this site is the potential for surface runoff to migrate to nearby streams, which in turn recharge groundwater off post. Groundwater at the site shows no significant contamination.

During the historical site assessment, it was determined there was a potential unexploded ordnance (UXO) concern at this site. A geophysical density survey for MEC was performed at Line 6 in the fall of 2004 by MKM. The MEC density survey was performed using an electromagnetic metal detector to a depth of four feet below ground surface (bgs).

MEC avoidance procedures should be used during any sampling and clearance is required prior to any large scale soil removal.

The Army has determined that some facilities at this line are excess and will pursue non-ER,A funding for building demolition and debris removal. Additional evaluation of soil beneath the slabs will be required after the demolition.

Some Line 6 structures are being used as part of test range operations located to the south of this inactive line.

Only installation operational controls incorporated as best management practices such as dig notices and NEPA apply for soil actions.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific

Site ID: IAAP-007

Site Name: LINE 6 AMMO PRODUCTION(DETONATOR)

restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UUUE remains. This applies only to soils being addressed by IRP.

Site ID: IAAP-007G

Site Name: LINE 6 AMMO PRODUCTION GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

This IRP site consists of the contamination from past munitions production.

Line 6 is a detonator production area encompassing 30 acres and located in the center of the installation. Constructed in 1941 and operated until 1981, this line is currently inactive. Line 6 consists of 34 buildings for the production, storage, and shipping of detonators, relays, and hand grenade fuses.

The primary waste stream was related to the production of detonators and included lead azide, lead styphnate, tetracene, RDX, barium nitrate and mercury fulminate. Treatment of black powder was performed in Building 6-68 as a RCRA permitted unit. This unit underwent RCRA closure in 1995 and will no longer be maintained or used by the Army (modified caretaker status). As part of the RCRA closure, 800 cy of contaminated soil were removed in 1994.

The PA/SI was completed in 1991, and an initial RI was completed in May 1996. The interim ROD requires the removal of approximately 445 cy of contaminated (metals) soil that was not addressed under the RCRA closure. This soil was excavated and taken to the IDA (IAAP-020). There it was sorted by contaminant level and type. The principal concern at this site is the potential for surface runoff to migrate to nearby streams, which in turn recharge groundwater off-post. Groundwater at the site shows no significant contamination.

During the historical site assessment, it was determined there was a potential unexploded ordnance (UXO) concern at this site. A geophysical density survey for MEC was performed at Line 6 in the fall of 2004 by MKM. The MEC density survey was performed using an electromagnetic metal detector to a depth of four feet bgs.

MEC avoidance procedures should be used during any sampling and clearance is required prior to any large scale soil removal.

The Army has determined that the facilities at this line are excess and will pursue non-ER,A funding for building demolition and debris removal, which is listed as an option in the PBC. Additional evaluation of soil beneath the slabs will be required after the demolition.

AEDB-R reflects this site as NFA; however, LTM, which includes LUCs and five-year reviews, will be required for a rolling 30 years.

Groundwater is addressed in OU6. Phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

Site ID: IAAP-007G
Site Name: LINE 6 AMMO PRODUCTION GROUNDWATER

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-008G

Site Name: LINE 7 AMMO LAP GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

Line 7 was a production Line that encompassed nine acres, built in 1941 and has been inactive since 1970. It was a fuze and blank load, assemble and pack operation where artillery primers, rocket igniters and time fuzes were assembled for World War II and the Korean War.

The IRP site consists of the contamination from past production.

The PA/SI was completed in 1991, and an initial RI was completed in May 1996. No contaminants above action levels were found.

The Army determined that the facilities at Line 7 were excess and the entire line was deconstructed in FY06 under the building demolition and debris removal program as documented in the Line 7 decontamination and demolition report.

Groundwater and surface water will be evaluated in the OU-6 on-site groundwater (former OU-3) FS, which is underway.

Phase progress will be tracked here, but funding requirements will be tracked under the PBC at Iowa site.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-009

Site Name: LINE 8 AMMO LAP(FUZE/ROCKET)

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals, Semi-volatiles (SVOC)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 199012..... | 200001 |
| RD..... | 200209..... | 200309 |
| RA(C)..... | 200305..... | 200508 |
| LTM..... | 200508..... | 204309 |

RIP Date: N/A

RC Date: 200508

SITE DESCRIPTION

The IRP site consists of the soil contamination from past munitions production. Any contamination from current or future activities will be addressed under compliance (non-ER,A funding).

Line 8 was a production Line that was constructed in 1941 and was used during World War II to produce Amatol (an explosive mixture of ammonium nitrate and TNT). The Emergency Export Co. utilized the ammonium nitrate crystallization equipment to produce fertilizer to support the Marshall Plan. Subsequent activities were fuze and rocket igniter load, assemble and pack operations. Prior to closing of the production activities around 1950, Line 8 consisted of four process buildings, a gate house, and tank farm to store ammonium nitrate liquor. Ammunition inspection activities took place from 1976 to 1993. Only two buildings remain and will no longer be maintained or used by the Army (modified caretaker status).

The PA/SI was completed in 1991, and an initial RI was completed in May 1996. The interim ROD required the removal of lead-contaminated soil; however, this site did not require cleanup to industrial RAOs as no contamination was found above action levels as documented in the Phase V Soil Remedial Action Report dated August 2005.

Only installation operational controls incorporated as best management practices such as dig notices and NEPA apply. No further IRP action is expected to be taken as this is an active production area.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UUUE remains.

Site ID: IAAP-009G

Site Name: LINE 8 AMMO LAP GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

The IRP site addresses the groundwater and surface water contamination from past munitions production. Any contamination from current or future activities will be addressed under compliance (non-ER,A funding).

Line 8 was a production line that was constructed in 1941 and was used during World War II to produce Amatol (an explosive mixture of ammonium nitrate and TNT). The Emergency Export Co. utilized the ammonium nitrate crystallization equipment to produce fertilizer to support the Marshall Plan. Subsequent activities were fuze and rocket igniter load, assemble and pack operations. Prior to closing of the production activities around 1950, Line 8 consisted of four process buildings, a gate house, and tank farm to store ammonium nitrate liquor. Ammunition inspection activities took place from 1976 to 1993. Only two buildings remain and will no longer be maintained or used by the Army (modified caretaker status).

The PA/SI was completed in 1991, and an initial RI was completed in May 1996. The interim ROD required the removal of lead-contaminated soil; however, this site did not require cleanup to industrial RAOs as no contamination was found above action levels as documented in the Phase V Soil Remedial Action Report dated August 2005.

Groundwater and surface water is being addressed as part of the FS under OU-6. OU-6 phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-010
Site Name: LINE 9 AMMO LAP (MINE)

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 199012..... | 199605 |
| RD..... | 200209..... | 200309 |
| RA(C)..... | 200305..... | 200508 |
| LTM..... | 200508..... | 204309 |

RIP Date: N/A

RC Date: 200508

SITE DESCRIPTION

Line 9 comprises about nine acres and was built in 1942 for use as a production facility that produced mines and mine fuses during the Vietnam War. Most buildings on this line were removed as part of the Facility Reduction Program. An active test range has been erected in its place.

In 1991 the PA/SI was completed and in May 1996 an initial RI was completed. Soil contaminated with explosives and metals was removed and disposed of in the IDA (IAAP-020) as documented in the OU-1 Phase V Soil Remedial Action Report dated August 2005.

Only installation operational controls incorporated as best management practices such as dig notices and NEPA apply. No further IRP action is expected to be taken as this is an active production area.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-010G

Site Name: LINE 9 AMMO LAP - GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Semi-volatiles (SVOC)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |
| RIP Date: | 201801 | |
| RC Date: | 204309 | |

SITE DESCRIPTION

Line 9 comprises about nine acres and was built in 1942 for use as a production facility that produced mines and mine fuses during the Vietnam War. Most buildings on this line were removed as part of the Facility Reduction Program. An active test range has been erected in its place.

In 1991 the PA/SI was completed and in May 1996 an initial RI was completed. In 2003, an SRI was completed to fill groundwater data gaps found in the May 1996 RI. In 2004-2006, the comprehensive watersheds evaluation and supplemental data collection was completed. In 2005, treatability studies were completed. OU-6 FS is currently underway.

Phase progress will be tracked at this site, but funding requirements will be tracked under site PBC at Iowa. Post-PBC costs will be covered under site IAAP-020.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-012

Site Name: EXPLOSIVE DISPOSAL AREA (EAST BURN PADS)

STATUS

Regulatory Driver: CERCLA
RRSE: LOW
Contaminants of Concern: Explosives, Metals
Media of Concern: Soil

| Phases | Start | End |
|------------------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 199012..... | 199706 |
| RD..... | 199704..... | 199711 |
| RA(C)..... | 199807..... | 199810 |
| LTM..... | 199810..... | 204309 |
| RIP Date: N/A | | |
| RC Date: 199810 | | |

SITE DESCRIPTION

The explosive disposal area (east burn pads, located in the northeast corner of IAAAP), consisted of eight raised earthen burning pads enclosed in a fenced area of approximately 12 acres. Activities included OB of explosives-contaminated metals, propellant, explosives and pyrotechnic contaminated materials. Each pad was bermed on three sides to restrict horizontal movement of metal projectiles. The pads were in operation from 1941 until 1982.

The PA/SI was completed in 1991 and an initial RI was completed in May 1996. The interim ROD required the removal of contaminated soil and 8,270 cy of soil was removed in 1998 [funded as an interim remedial action (IRA)]. This soil was taken to the IDA (IAAP-020) and sorted by contaminant level and type. Soil excavation is complete.

Only installation operational controls incorporated as best management practices such as dig notices and NEPA apply. No further IRP action is expected to be taken as this is an active production area.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-012G

Site Name: EDA/EAST BURN PADS - GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |
| RIP Date: | 201801 | |
| RC Date: | 204309 | |

SITE DESCRIPTION

The explosive disposal area (east burn pads, located in the northeast corner of IAAP), consisted of eight raised earthen burning pads enclosed in a fenced area of approximately 12 acres. Activities included OB of explosives-contaminated metals, propellant, explosives and pyrotechnic contaminated materials. Each pad was bermed on three sides to restrict horizontal movement of metal projectiles. The pads were in operation from 1941 until 1982, when the explosive waste incinerator (EWI) was built.

The PA/SI was completed in 1991 and an initial RI was completed in May 1996. In 2003, an SRI was completed to fill groundwater data gaps found in the May 1996 RI. Low levels of explosives and VOCs have been found in shallow groundwater and upper bedrock 30 feet below ground surface (bgs). In 2004-2006, the comprehensive watersheds evaluation and supplemental data collection was completed. OU-6 FS is currently underway.

Phase progress will be tracked in this site, but funding requirements will be tracked under site PBC at Iowa. Post-PBC costs will be covered under site IAAP-020.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-013

Site Name: INCENDIARY DISPOSAL AREA (EAST YARD D)

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Explosives, Metals

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 200012..... | 200710 |
| RD..... | 200408..... | 200710 |
| RA(C)..... | 200408..... | 200710 |
| LTM..... | 200710..... | 204309 |

RIP Date: N/A

RC Date: 200710

SITE DESCRIPTION

Based upon an interview with a former installation employee, this site was located east of Yard D and Spring Creek, and north of K Road. It was used for incendiary material burial during the mid-1940s. It was believed to be small (approximately 40 feet x 60 feet) and surrounded by a barbed wire fence. The exact size, location, and material buried at this site cannot be determined because there are no records of this activity ever being performed at the IAAP. Some indications do exist that magnesium may have been the material disposed of at this site. Previous samples taken during the SI may not have been appropriately located.

This site was expanded to include a cratered area found during a 2000 site walkover, located west of the area known to be the InDA. These craters are approximately four feet wide and two feet deep and are spread over approximately 10 acres. A fence with "Danger" signs intersects the cratered area.

Additional soil and sediment samples were collected in 2004 and documented in the draft final report for the soil data collection. Elevated levels of beryllium were detected above the background levels in multi-incremental shallow soil as determined in the OU-1 ROD, as well as elevated levels of lead detected in discrete shallow soil. This site was identified within the footprint of the east training area/land navigation range, which is considered inactive by the Army.

Soil was excavated at OU-1 and transported to the IDA (IAAP-020) for treatment and disposal. This site is RC for soils media under OU-1. No LTM or LUCs are expected under OU-1. LUC and LTM will be addressed under OU-5 (MMRP).

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains. This applies only to soils being addressed by IRP.

Site ID: IAAP-013G

Site Name: INCENDIARY DISPOSAL AREA GROUNDWATR

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

Based upon an interview with a former installation employee, this site was located east of Yard D and Spring Creek, and north of K Road. It was used for incendiary material burial during the mid-1940s. It was believed to be small (approximately 40 feet x 60 feet) and surrounded by a barbed wire fence. The exact size, location, and material buried at this site cannot be determined because there are no records of this activity ever being performed at the IAAP. Some indications do exist that magnesium may have been the material disposed of at this site. Previous samples taken during the SI may not have been appropriately located.

IAAP-013 has been expanded to include a cratered area found during a 2000 site walkover, located west of the InDA. These craters are approximately four feet wide and two feet deep and are spread over approximately 10 acres. A fence with "Danger" signs intersects the cratered area.

Additional soil and sediment samples were collected in 2004 and documented in the draft final report for the soil data collection. Elevated levels of beryllium were detected above the background levels in multi-incremental shallow soil as determined in the OU-1 ROD, as well as elevated levels of lead detected in discrete shallow soil. This site was identified within the footprint of the east training area/land navigation range, which is considered inactive by the Army.

A draft final OU-7 SRI Revision 3 was submitted to the USEPA for review in August 2011. This document remains under dispute with EPA. Draft final OU-7 FS for surface water, and sediment is currently in dispute also.

Groundwater is being addressed as part of the FS under OU-6.

Surface water and sediment are being addressed at OU-7 as part of the FS. The Army and the USEPA are currently working through informal dispute.

Phase progress will be tracked in this site, but funding requirements will be tracked under site PBC at Iowa. Post-PBC costs will be covered under site IAAP-020.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-014G

Site Name: BOX CAR UNLOADING AREA GROUNDWATER

STATUS

Regulatory Driver: CERCLA
RRSE: NOT EVALUATED
Contaminants of Concern: Explosives, Metals
Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |
| RIP Date: | 201801 | |
| RC Date: | 204309 | |

SITE DESCRIPTION

This site addresses groundwater and surface water at two areas located adjacent to the railroad tracks in Yard B. The site was utilized as an unloading and temporary storage area for dunnage lumber. The area began receiving shipments in the 1940s and continues to do so. Minute amounts of TNT and RDX may have come into contact with the soil in the area.

This site was evaluated in the comprehensive watersheds evaluation and supplemental data collection work plan, and based on the results of the investigation, there is no indication that contamination is present at the site.

This site remains open for groundwater evaluation in OU-6. Phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-015
Site Name: OLD FLY ASH WASTE PILE

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals, Semi-volatiles (SVOC)

Media of Concern: Sediment, Soil, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201502 |
| RD..... | 200406..... | 201604 |
| RA(C)..... | 200406..... | 201706 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201706

RC Date: 204309

SITE DESCRIPTION

This site addresses soil, surface water, and sediment as part of OU7. The Old Fly Ash Waste Pile is located in the southeastern portion of the IAAP. It was used to deposit fly ash from the main heating plant and the Building 1-62 heating plant from 1940 until 1976. It lies east of Plant Road H, between Yards D and E. The eastern boundary of the site slopes steeply down to Brush Creek; the top of the site is approximately 40 feet vertical above the creek. Ash was placed directly on the ground surface. Sludge from the sewage disposal plant was placed on this site once or twice a year since the early-1940s. It is unclear when this practice stopped. There is no record of the amounts of ash or sludge placed here. The majority of the surface of the Fly Ash Waste Pile is vegetated. Surface runoff flows into Brush Creek.

The PA/SI was completed in 1991, and the limited RI was completed in May 1996.

Ash has fallen into Brush Creek at least since . Uncontrolled dumping of vegetation and solid waste, including tires, bricks, and five-gallon cans, was found at this site in May 1999. This material was removed shortly after discovery.

Additional soil, fly ash, sediment and groundwater samples were collected in 2004 and documented in the draft final report for the soil data collection.

The Army and the USEPA are working through informal dispute regarding the OU-7 FS.

Phase progress will be tracked here via the PBC site, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The Army and the USEPA are executing dispute resolution steps for the draft final OU-7 FS for soil, surface water and sediment. Groundwater is addressed in OU-6.

Site ID: IAAP-015G

Site Name: OLD FLY ASH WASTE PILE GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals, Polycyclic Aromatic Hydrocarbons (PAH)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

Groundwater at this site is address under OU6. The Old Fly Ash Waste Pile is located in the southeastern portion of the IAAP. It was used to deposit fly ash from the main heating plant and the Building 1-62 heating plant from 1940 until 1976. It lies east of Plant Road H, between Yards D and E. The eastern boundary of the site slopes steeply down to Brush Creek; the top of the site is approximately 40 feet vertical above the creek. Ash was placed directly on the ground surface. Sludge from the sewage disposal plant was placed on this site once or twice a year since the early-1940s. It is unclear when this practice stopped. There is no record of the amounts of ash or sludge placed here.

The majority of the surface of the Fly Ash Waste Pile is vegetated. Surface runoff flows into Brush Creek.

The PA/SI was completed in 1991, and the limited RI was completed in May 1996. Additional soil, fly ash, sediment and groundwater samples were collected in 2004.

Additional groundwater sampling is planned as part of OU-6 in response to the USEPA comments regarding the OU-7 informal dispute.

Phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site Name: LINE 1 FORMER WASTEWATER IMPOUNDMENT

STATUS

Regulatory Driver: CERCLA
RRSE: HIGH
Contaminants of Concern: Explosives
Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 199012..... | 199610 |
| RA(C)..... | 199610..... | 199709 |
| LTM..... | 199710..... | 204309 |
| RIP Date: | N/A | |
| RC Date: | 199709 | |

SITE DESCRIPTION

This site consists of the Line 1 Former Wastewater Impoundment and upgradient settling basins. The Line 1 Former Wastewater Impoundment was formed by damming a portion of the upper reaches of Brush Creek. The primary function of the impoundment was to allow settling of particulate matter from explosives-contaminated wastewater from Line 1 (a former US Atomic Energy Commission and Army site) before it discharged downstream. From 1948 to 1957 this impoundment received large volumes of discharge. The wastes included TNT, coal pile runoff, and condensate from the coal-fired power plant. Fly ash usually was added to the impoundment liquid to absorb the explosives and reduce the color. During periods of high flow, the impoundment covered from 3.6 acres to 7.5 acres (1,300 to 2,400 feet long). The embankment was breached after 1957; Brush Creek flowed through the breach and the former impounded area was allowed to revegetate naturally. In 1991 RI work for the Impoundment area was completed.

In 1996, the action memo was approved. A contaminated soils IRA was completed during 1997 when 8,270 cy of explosives-contaminated soils were excavated from this area. The excavated soils contained greater than 3,900 pounds of explosives. This soil was taken to the IDA (IAAP-020) where it was separated by level of contamination. Approximately 1,000 cy of higher contaminated soil was placed in Trench 7 and was treated as required by the ROD. The remainder was capped at the IDA without treatment.

This site has been converted into wetlands. Native plants containing the nitroreductase enzyme are being used to phytoremediate the surface water. Low levels of residual explosives remain in surface water within the impoundment; those greater than two ppb are being treated with granular activated carbon prior to discharge into Brush Creek.

The FUSRAP PA identified this area as requiring additional investigation. In August 2004 the FUSRAP conducted a screening survey of this site to determine if radiological contaminants from USAEC activities are present in the soil. PAs of all screening results indicate no radiological contamination present at this area; however, groundwater contamination was discovered in 2004.

Recent groundwater and soil sampling indicate there may be soil impacted with explosives at the southern end of the site. The levels indicate remediation is probable.

Only installation operational controls incorporated as best management practices such as dig notices and NEPA apply to this site for soils as of now.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination

Site ID: IAAP-016

Site Name: LINE 1 FORMER WASTEWATER IMPOUNDMENT

above UU/UE remains. Groundwater investigation reveals evidence of source contamination in soils that will be addressed in next contracting action.

Site ID: IAAP-016G

Site Name: LINE 1 FORMER IMPOUNDMENT GRNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

This site consists of the Line 1 Former Wastewater Impoundment and upgradient settling basins. The Line 1 Former Wastewater Impoundment was formed by damming a portion of the upper reaches of Brush Creek. The primary function of the impoundment was to allow settling of particulate matter from explosives-contaminated wastewater from Line 1 (a former US Atomic Energy Commission and Army site) before it discharged downstream. From 1948 to 1957 this impoundment received large volumes of discharge. The wastes included TNT, coal pile runoff, and condensate from the coal-fired power plant. Fly ash usually was added to the impoundment liquid to absorb the explosives and reduce the color. During periods of high flow, the impoundment covered from 3.6 acres to 7.5 acres (1,300 to 2,400 feet long). The embankment was breached after 1957; Brush Creek flowed through the breach and the former impounded area was allowed to revegetate naturally. In 1991 RI work for the Impoundment area was completed.

In 1996, the action memo was approved. A contaminated soils IRA was completed during 1997 when 8,270 cy of explosives contaminated soils were excavated from this area. The excavated soils contained greater than 3,900 pounds of explosives. This soil was taken to the IDA (IAAP-020) where it was separated by level of contamination. Approximately 1,000 cy of higher contaminated soil was placed in Trench 7 and was treated as required by the ROD. The remainder was capped at the IDA without treatment.

This site has been converted into wetlands. Native plants containing the nitroreductase enzyme are being used to phytoremediate the surface water. Low levels of residual explosives remain in surface water within the impoundment; those greater than two ppb are being treated with granular activated carbon prior to discharge into Brush Creek.

The FUSRAP PA identified this area as requiring additional investigation. In August 2004 the FUSRAP conducted a screening survey of this site to determine if radiological contaminants from USAEC activities are present in the soil. PAs of all screening results indicate no radiological contamination present at this area; however, groundwater contamination was discovered in 2004.

Groundwater is being address as part of the FS under OU-6. OU-6 phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-017
Site Name: PESTICIDE PIT

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Herbicides, Metals, Pesticides

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199105 |
| RI/FS..... | 200406..... | 201502 |
| IRA..... | 199503..... | 199606 |

RIP Date: N/A

RC Date: 201502

SITE DESCRIPTION

The Pesticide Pit was in operation between 1968 and 1974 for the disposal of small quantities of insecticides and herbicides. This site is located approximately 25 feet east of the Winnebago School House (Bldg 500-30-6) on an upland terrace surrounded by agricultural fields. The School House is currently vacant and was fenced for safety reasons. The Pesticide Pit was a small plywood structure (eight feet by eight feet by three feet) lined with limestone and polyester resin geomembrane; however, the integrity of the structure that contained these wastes was questionable. The pit was capped with clay of unknown thickness during the late-1970s to early-1980s.

The PA/SI was completed in 1991, and the RI in May 1996.

In 1995, based on preliminary RI results, 144 cy of soils were excavated and the site was backfilled with pea gravel and clean soil.

Follow-on groundwater sampling and analyses indicated all contaminants were below federal action levels. IRAs were completed in 1996. The soils were transported to an off-site incinerator for disposal.

This action has not been finalized in a ROD; however, NFA is expected. The Army anticipates that this site will be included on the OU-7 ROD.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required; however, LTM, which includes internal installation specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-017G

Site Name: PESTICIDE PIT GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

This site addresses groundwater. The Pesticide Pit was in operation between 1968 and 1974 for the disposal of small quantities of insecticides and herbicides. This site is located approximately 25 feet east of the Winnebago School House (Bldg 500-30-6) on an upland terrace surrounded by agricultural fields. The School House is currently vacant and was fenced for safety reasons. The Pesticide Pit was a small plywood structure (eight feet by eight feet by three feet) lined with limestone and polyester resin geomembrane; however, the integrity of the structure that contained these wastes was questionable. The pit was capped with clay of unknown thickness during the late-1970s to early-1980s.

The PA/SI was completed in 1991, and the RI in May 1996. Spring 2001 and June 2004 groundwater sampling indicated slightly elevated levels of chromium.

Groundwater is being addressed as part of the FS under OU-6. The OU-6 phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-018

Site Name: POSSIBLE DEMOLITION SITE(SOUTH YARD G)

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 200107..... | 200710 |
| RD..... | 200408..... | 200710 |
| RA(C)..... | 200408..... | 200710 |
| LTM..... | 200710..... | 204309 |

RIP Date: N/A

RC Date: 200710

SITE DESCRIPTION

This site addresses soils, surface water, and sediment. It was apparently used during the 1940s and possibly into the early-1950s as a demolition area for ammunition items. This demolition area was allegedly located south of Plant Road K near Yard G and across the road from the pistol range.

The SI sampling was completed in 1991 and no significant contamination was found. This site was larger than thought, and previous samples were not representative of the site conditions.

Contaminants listed in the PA for this site included white and red phosphorus, as well as explosives and metals.

Additional soil samples were collected in 2004 and documented in the draft final report for the soil data collection. Elevated levels of TNT and lead were found in multi-incremental shallow soil above background levels as determined in the OU-1 ROD.

Soil was excavated and transported to the IDA for treatment and disposal.

Site OU-1 is RC for soils media under OU-1. No LTM or LUCs are necessary under OU-1 as these will be addressed via OU-5 (MMRP).

CLEANUP/EXIT STRATEGY

Site OU-1 is RC for soils media under OU-1. No LTM or LUCs are necessary under OU-1 as these will be addressed via OU-5 (MMRP). Therefore, the site is RC under IRP and no cleanup or exit strategy applies.

Site ID: IAAP-018G

Site Name: POSSIBLE DEMOLITION SITE GRNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |
| RIP Date: | 201801 | |
| RC Date: | 204309 | |

SITE DESCRIPTION

This PDS MRS encompasses 40 acres (increased from 15 acres) including the area north of K Road. The site was located south of the pistol range and K Road, and east of Long Creek. It was probably used during the 1940s and early-1950s as a demolition area for ammunition items and for demilitarizing white phosphorous rounds.

The SI sampling was completed in 1991 and no significant contamination was found.

This site was previously included in OU-7 (former OU-4) for soils, but was transferred to OU-1 as documented in the Final ESD for Addition of Environmental Protectiveness to the Remedy and Transfer of Sites from OU-4 to OU-1 dated June 2008. Only surface water and sediment remain under OU-7 for this site. Groundwater is addressed in OU-6.

The site is currently addressed under OU-5 for MEC; OU-6 for groundwater, and OU-7 for surface water and sediment.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-020
Site Name: INERT DISPOSAL AREA

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals, Radionuclides,
Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 197803..... | 199105 |
| SI..... | 197803..... | 199105 |
| RI/FS..... | 199012..... | 199505 |
| RD..... | 199505..... | 199508 |
| IRA..... | 198809..... | 200001 |
| RA(C)..... | 199603..... | 201109 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201109

RC Date: 204409

SITE DESCRIPTION

IDA encompasses 20 acres located west of C Road, north of Line 3A in the west central part of the installation. It once included an inert (sanitary) landfill, a bldg, a metal salvage operation, the former Blue Sludge Lagoon, wastewater sludge drying bed, cap extension area, and an earthen holding area formerly used to store sludge from Lines 3 and 800.

Soils from other sites are transported to the IDA for segregation according to health risk. Soils classified as a high risk were placed in the corrective action management unit (CAMU) (Trench 7) for treatment. The CAMU was designated by the USEPA in March 1996. Soils classified as a medium health risk are placed in a lined cell that meet RCRA standards (Trench 6). Soils that are classified as a low health risk are placed underneath the overall cap at the IDA.

The ILF was in operation from 1941-1992. It employed the trench-and-fill operation technique. Trenches 1-5 were filled unsalvageable or unrecoverable materials (cafeteria and residential garbage, broken pallets, plastic, and scrap wood/lumber, paper, cardboard, etc). Ash from OB and incineration was also placed in the landfill. In 1980 a part A permit was received for the inert landfill and the Blue Sludge Lagoon. Interim status was granted that year. During 1997 a low permeability synthetic cap was placed over Trenches 1-5 (approximately 17 acres) and the area was seeded.

In 1997 the blue sludge was excavated from this drying bed and deposited into Trench 6. In 1997 explosives- and metals-contaminated soils from a 1993-1994 multi-site sump removal project were placed in Trench 6.

The north end of Trench 5 contains special waste, such as ash from the CWP (IAAP-024), EWI (IAAP-025), and OB of explosives and explosives-contaminated wastes.

In April 1988 this area was capped and the RCRA closure plan completed. In February 1997 the plan was amended and during routine sampling radionuclides were found in groundwater, but were determined to be within normal background levels and within safe limits.

In 1996 IRAs (soil removal and capping) at the IDA, Former Line 1 Impoundment Area (IAAP-016), and the Line 800 Lagoon (IAAP-044) were completed in 1997.

Soil and debris from the burning grounds was placed underneath the inert landfill cap or in Trench 6, whichever was appropriate, based upon contamination levels. In 1997, the cap construction was completed over Trenches 1-5. Soils from the East Burn Pads, North Burn Pads, North Burn Pads Landfill and Fire Training Pit were placed into Trenches 6 or 7 depending upon risk levels. VOC-contaminated soils from the Fire Training Pit were removed and treated via a low temperature thermal desorption unit at Trench 6. In March 1996 Trench 7 was designated as a CAMU by the USEPA.

In FY02, approximately 6,000 cy of soil contaminated with explosives and metals and stored in the CAMU were treated and segregated per the interim soil ROD.

Site ID: IAAP-020

Site Name: INERT DISPOSAL AREA

All soils were treated with alkaline hydrolysis per OU1 Final ROD ESD dated September 2009; CAMU liner was removed and disposed of in Trench 6. Trench 6 was capped in 2011. The RACR is being prepared.

Groundwater monitoring and LTM costs associated with the following sites are captured in this site: CC-001G, CC-01, CC-IAAP-001, CC-IAAP-002, IAAP-002, IAAP-002G, IAAP-003, IAAP-003G, IAAP-004, IAAP-004G, IAAP-005, IAAP-005G, IAAP-006, IAAP-006G, IAAP-007, IAAP-007G, IAAP-008, IAAP-008G, IAAP-009, IAAP-009G, IAAP-010, IAAP-010G, IAAP-012, IAAP-012G, IAAP-013, IAAP-013G, IAAP-014, IAAP-014G, IAAP-015, IAAP-015G, IAAP-016, IAAP-016G, IAAP-017, IAAP-017G, IAAP-018, IAAP-018G, IAAP-020, IAAP-020G, IAAP-022, IAAP-022G, IAAP-025, IAAP-025G, IAAP-028, IAAP-028G, IAAP-030, IAAP-030G, IAAP-031, IAAP-031G, IAAP-032, IAAP-032G, IAAP-036, IAAP-036G, IAAP-037, IAAP-037G, IAAP-038, IAAP-038G, IAAP-039, IAAP-039G, IAAP-040, IAAP-040G, IAAP-041, IAAP-041G, IAAP-042, IAAP-042G, IAAP-043, IAAP-043G, IAAP-044, IAAP-044G, IAAP-047, IAAP-047G.

To date, approximately 209,060 cy of soil have been taken to the IDA. Of this volume,

- 72,860 cy was placed as random fill under the cap of the inert landfill (i.e., Trenches 1-5);
- 83,434 cy was placed in Trench 6 (i.e., 72,440 cy IRP soil; 10,994 cy FUSRAP soil);
- 15,036 cy was placed in Trench 7 for treatment (i.e., 14,758 cy IRP soil; 278 cy FUSRAP soil); and
- 37,730 cy was placed in the CEA.

The soil volume treated to date includes a total of 37,959 cy. This treated soil includes

- 8,854 cy which has undergone biotreatment for soils,
- 13,005 cy which has undergone metals stabilization,
- 15,448 cy which has undergone chemical treatment for explosives, and
- 652 cy which has undergone low temperature thermal desorption (LTTD).

A portion of this volume came from FUSRAP screening areas (IAAP-012, IAAP-032, IAAP-036, and IAAP-037). Soils from Trench 7 have been transferred to Trench 6. Some treated soils, such as those treated with LTTD, were sent directly to Trench 6 immediately after treatment.

During the August 2004 radiological screening of the IDA conducted by FUSRAP, one isolated area of radiological contamination was identified. This area was limited to a small object and the soils around the object (approximately one square yard). Analysis identified that the object contained Cesium-137. The soil where the object was found originated from remediation activities at the West Burn Pads Area (IAAP-032). The area was sufficiently covered with soil to eliminate exposure. Evaluation of this object was documented in the final technical memorandum for cesium source evaluation dated February 2009 prepared by Tetra Tech.

The CEA was capped in 2009.

An ESD, signed in September 2009, changed the primary remedy for explosive-contaminated soils from biological to chemical treatment.

CLEANUP/EXIT STRATEGY

Trench 6 was capped in 2011. Programmed costs include leachate management and cap maintenance along with OU-1 and OU-4 five-year reviews.

Site ID: IAAP-020G

Site Name: INERT DISPOSAL AREA - GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Explosives, Metals, Radionuclides, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 197803..... | 199105 |
| SI..... | 197803..... | 199105 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

This area encompasses approximately 20 acres that once included an inert (sanitary) landfill, a burning ground, a metal salvage operation, the former Blue Sludge Lagoon, a wastewater sludge drying bed, CEA, and an earthen holding area formerly used to store sludge from Line 3 and Line 800. The IDA is located west of C Road, north of Line 3A in the west central part of the installation.

The inert landfill was in operation from 1941 to September 1992 and employed the trench and fill operation technique. Trenches 1 through 5 were filled primarily with sanitary landfill materials such as unsalvageable or unrecoverable materials (cafeteria and residential refuse and garbage, broken pallets, plastic, tin cans, and scrap wood/lumber paper, cardboard and asbestos insulation in double-lined plastic bags). Ash from OB and incinerations was also placed in the landfill. In 1980 a Part A permit was received for the inert landfill and the Blue Sludge Lagoon. Interim status was granted that year. In 1984 the lagoon holding area was closed following the transfer of the blue sludge to a concrete-lined sludge drying bed, where it remained until January 1997. The excavated area was backfilled and capped with clay and a vegetative cover was established. In 1997, the blue sludge was excavated from the drying bed and deposited into Trench 6. In 1997 explosives- and metals-contaminated soils from a 1993-1994 multi-site sump removal project were placed in Trench 6. Also during 1997, a low permeability synthetic cap was placed over Trenches 1 through 5 (approximately 17 acres). This area was seeded in 1998.

The north end of Trench 5 contains special waste, such as ash from the CWP (IAAP-024), EWI (IAAP-025), and OB of explosives and explosives-contaminated wastes. In April 1988 this area was capped and the RCRA closure plan was completed. In February 1997 the plan was amended to address sampling issues. In 1997 during routine sampling radionuclides were found in groundwater samples and were determined to be within normal background levels for IAAP and within safe limits.

In 1994 groundwater monitoring began. Low levels of explosives, VOCs, and metals have been found in shallow groundwater (30 feet bgs). High levels of pentachlorophenol (PCP) have been found in one well.

Phase progress will be tracked at this site, but funding requirements will be tracked under site PBC at Iowa. Post-PBC costs will be covered under site IAAP-020.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-022G

Site Name: UNIDENTIFIED SUBSTANCE (OIL) GNDWTR

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals, Semi-volatiles (SVOC)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

This site covered an area approximately 20 feet by 20 feet. The site is situated in the central portion of the IAAP, northwest of Yard O along the south side of the railroad track, approximately 150 yards west of Plant Road I.

The unidentified substance thought to be road surfacing oil was discovered on July 16, 1985 (IAG, 1990). The source of the oil spill is thought to have been a leaking railroad tank car (RI/FS Task Order, 1990).

The spill area is located 15 to 20 feet south of the railroad track bed. According to the on-site personnel, this area has been covered with approximately 10 feet of fill material which has created a small incline sloping up and away from the railroad track bed. The SI sampling was completed in 1991 and no significant contamination was found.

The site remains open for groundwater evaluation in OU-6. Phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-025

Site Name: EXPLOSIVE WASTE INCINERATOR

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Explosives, Metals, Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 197803..... | 199105 |
| SI..... | 197803..... | 199105 |
| RI/FS..... | 200406..... | 201502 |
| RD..... | 200406..... | 201604 |
| RA(C)..... | 200406..... | 201706 |
| RA(O)..... | 200406..... | 204309 |
| RIP Date: | 201706 | |
| RC Date: | 204703 | |

SITE DESCRIPTION

The EWI was located in the southwest corner of the Explosive Disposal Area (IAAP-012). The EWI was within Building BG-199-1 and contained an adjoining air pollution control system. The site treated explosive wastes, sump scrap, and explosives-contaminated waste solvents. Explosives-contaminated carbon was originally treated in the EWI, but is now recycled. Resultant ash was collected and managed as a hazardous waste. The EWI buildings and facilities underwent RCRA closure, and the incinerator was removed from the installation in 1999.

The PA/SI was completed in 1991, and an initial RI was completed in May 1996. One area (drainage ditch) had a detection of RDX at levels above cleanup criteria that was not addressed by RCRA closure of the EWI. This soil is addressed under OU-7.

The Army and EPA are currently working through an informal dispute over OU7 FS.

Phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The Army and the USEPA are executing dispute resolution steps for the draft final OU-7 FS for soil, surface water, and sediment. Groundwater is addressed in OU-6.

Site ID: IAAP-025G

Site Name: EXPLOSIVE WASTE INCINERATOR GRNDWTR

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |
| RIP Date: | 201801 | |
| RC Date: | 204309 | |

SITE DESCRIPTION

The EWI was located in the southwest corner of the Explosive Disposal Area (IAAP-012). The EWI was within Building BG-199-1 and contained an adjoining air pollution control system. The site treated explosive wastes, sump scrap, and explosives contaminated waste solvents. Explosives-contaminated carbon was originally treated in the EWI, but is now recycled. Resultant ash was collected and managed as a hazardous waste. The EWI buildings and facilities underwent RCRA closure, and the incinerator was removed from the installation in 1999.

The PA/SI was completed in 1991, and an initial RI was completed in May 1996.

Groundwater and surface water is being addressed as part of the FS under OU-6. OU-6 phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-028

Site Name: CONSTRUCTION DEBRIS DISPOSAL AREA

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals, Pesticides, Polychlorinated Biphenyls (PCB), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 200406..... | 201502 |
| RD..... | 200406..... | 201604 |
| RA(C)..... | 200406..... | 201706 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201706

RC Date: 204703

SITE DESCRIPTION

This site is addressed under OU-7 for soil, surface water, and sediment. The construction debris landfill is located in the central portion of the installation. Wastes were placed in a ravine with periodic soil cover. Waste included brick, stone, concrete, wire and 55-gallon drums. It is believed that this site was in operation from 1941 to September 1992. The site was originally reported to be three acres; after the initial RI, the site was determined to be 10 acres.

The PA/SI was completed in 1991, and the initial RI was completed in May 1996; no significant contamination was found.

It is believed that unauthorized dumping occurred at this site.

Additional soil and sediment samples were collected in 2004 to help determine the full extent of the site. This information is documented in the draft final report for the soil data collection. No analytes above the background levels as determined in the OU-1 ROD were detected. Material that appeared to be fly ash was encountered at 18 feet bgs.

The Army and the USEPA are currently working through an OU-7 informal dispute resolution.

Phase progress will be tracked here, but funding requirements will be tracked under Site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The Army and the USEPA are executing dispute resolution steps for the draft final OU-7 FS for soil, surface water, and sediment. Groundwater is addressed in OU-6.

Site ID: IAAP-028G

Site Name: CONSTRUCTION DEBRIS DISPOSAL GRDWTR

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

This site addresses groundwater under OU-6. The construction debris landfill is located in the central portion of the installation. Wastes were placed in a ravine with periodic soil cover. Waste included brick, stone, concrete, wire and 55-gallon drums. It is believed that this site was in operation from 1941 to September 1992. The site was originally reported to be three acres; after the initial RI, the site was determined to be 10 acres.

The PA/SI was completed in 1991, and the initial RI was completed in May 1996; no significant contamination was found.

It is believed that unauthorized dumping occurred at this site.

Groundwater is addressed in OU-6. Phase progress will be tracked here, but funding requirements will be tracked under Site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-030G

Site Name: FIRING SITE AREA GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals, Radionuclides

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

The Firing Site area has been in use since the 1940s for testing of static warheads. The fenced site encompasses about 450 acres and is about one mile from the nearest installation boundary.

In 1947, the IAAP was selected as the first production facility for manufacturing of high explosives components for weapons under the Atomic Energy Commission.

Portions of the Firing Site were under the control of the Atomic Energy Commission from 1948 to 1974. The Atomic Energy Commission operated Sub-Area FS-12 from December 1965 to December 1973. FS-12 was used for destructive testing of ordnance containing depleted uranium and high explosives. Area FS-12 was surveyed for radioactivity by the Atomic Energy Commission in 1974 and some contaminated soil was shipped off-site to Sheffield, IL in that same year. In May 2001, a survey conducted by FUSRAP detected numerous fragments of depleted uranium. An aerial radiological survey of the entire plant was conducted in October 2002, and detectable emissions from man-made radiological sources were found at Firing Site 12. The IRP PA/SI was completed in 1991, and the RI in May 1996 found radionuclides and metals in soil and groundwater.

A supplemental RI was completed in 2002. FUSRAP performed a PA (published December 2001) of this site and determined it to be a former Atomic Energy Commission area. In July 2002, the USACE designated this area to be under FUSRAP.

Both radiological and non-radiological contamination attributable to former USAEC operations will be addressed by FUSRAP for soils. FUSRAP will complete a supplemental RI for this site. FUSRAP will assume responsibility for cleanup of soils.

This site was transferred to FUSRAP and is considered RC, for the soils media, by the IRP. Groundwater is being addressed as part of OU-6. OU-6 phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-031G

Site Name: AMMO BOX CHIPPER DISPOSAL GRNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Semi-volatiles (SVOC)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |
| RIP Date: | 201801 | |
| RC Date: | 204309 | |

SITE DESCRIPTION

The Yard B Ammunition Box Chipper Disposal Pit has been estimated to measure 120 by 40 by eight ft.

The pit was reportedly used for a three-month period sometime between 1972 and 1975. Wastes consisted of shredded ammunition boxes treated with the wood preservative pentachlorophenol (PCP).

Investigations conducted during 1997 have not substantiated the former existence of this site. If this site is ever located it will be investigated.

Bis-2-ethylhexylphthalate has been found in groundwater in area of suspected location.

The site remains open for groundwater evaluation in OU-6. Phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

the current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-032

Site Name: BURN CAGES, BCLF; WEST BURN PADS, WBPLF

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Explosives, Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 199012..... | 199804 |
| RD..... | 199901..... | 199909 |
| RA(C)..... | 200006..... | 200212 |
| LTM..... | 200212..... | 204309 |

RIP Date: N/A

RC Date: 200212

SITE DESCRIPTION

Burn cages were used for incineration of inert and explosives-contaminated packaging and other waste generated from burn operations we disposed in adjacent landfills. Another small area of soil needs investigation and possible removal. This is located across the road from the present removal site and was not known to be part of the west burn pads area. Radiological concerns at this site are to be addressed by the FUSRAP Program.

This site is NFA for soils media under IRP; however, LTM, which includes best management practices and five-year reviews will be required for a rolling 30 years.

CLEANUP/EXIT STRATEGY

This site is considered response complete, for the soils media, under the IRP as documented in the Phase 1 and Phase 3 soil RA Report (north side of road).

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

The south side of the road was designated to FUSRAP in July 2002.

The MEC and MC were addressed under the MMRP as captured in AEDB-R site IAAP-003-R-01.

Site ID: IAAP-032G

Site Name: WEST BURN PAD AREA - GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals, Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

Because of the complexity in defining site boundaries, sites IAAP-032 (Burn Cages), IAAP-033 (Burn Cage Landfill), IAAP-034 (West Burn Pads), and IAAP-035 [West Burn Pads Landfill (WBPLF)], were incorporated into this one site.

Burn cages were used for the incineration of inert and explosives-contaminated packaging. The flashing of metals parts also was performed here. The site was used from 1949 to 1982 when the cages were removed. In 1991, during the SI, metal parts, munitions casings, and staining on the ground surface were observed. Ash generated from the burn operations was disposed in the adjacent landfills. The landfills comprise approximately three acres and are heavily vegetated.

From 1949 to 1982 the West Burn Pads were used for metals flashing. Between 1949 and 1982 ash from the Burn Cages and West Burn Pads was disposed at the Burn Cage Landfill and then, between 1950 and 1975, at the WBPLF. The WBPLF also received waste from the East Burn Pads as well as various solid wastes that included sanitary and industrial waste.

This site consists of the contamination from past activities. In 1991 the PA/SI was completed and in May 1996 an initial RI was completed. In 2003, a SRI was completed to fill groundwater data gaps found in the May 1996 RI. In 2004-2006, the comprehensive watersheds evaluation and supplemental data collection was completed. In 2005, treatability studies were completed. OU-6 FS is currently underway.

After the soil removal was completed in 2000, relatively high levels of explosives and freon were found in the groundwater.

In 2000 low levels of explosives were detected in the creek south of the WBPLF. In 2003 a supplemental RI was completed and in 2004 a groundwater model was created.

Phase progress will be tracked at this site, but funding requirements will be tracked under site PBC at Iowa. Post-PBC costs will be covered under site IAAP-020.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-036

Site Name: NORTH BURN PADS (2) (NEAR IAAP-024)

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 199012..... | 200303 |
| LTM..... | 200303..... | 204309 |

RIP Date: N/A

RC Date: 200303

SITE DESCRIPTION

Consists of Pads 1-N and 2-N. Lead azide and gun powder were burned here. A 275-gallon diesel fuel station was located at the base of Pad 2-N. Soil excavations were completed in 1999 under soils Phase 1 RA.

This site requires NFA and is considered RC for soils media under IRP; however, LTM, which includes installation controls as a best management practice and five-year reviews will be required for a rolling 30 years.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-036G

Site Name: NORTH BURN PADS GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |
| RIP Date: | 201801 | |
| RC Date: | 204309 | |

SITE DESCRIPTION

The North Burn Pads consists of Pads 1-N and 2-N.

Each pad measures about 20 x 50 ft and was operational from 1968 to 1972. Lead azide and gun powder were burned here. A 275-gallon diesel fuel station was located at the base of Pad 2-N. The station had an aboveground tank used to refuel equipment operating in the area.

The PA/SI was completed in 1991, the RI was completed in May 1996 and found metals and small amounts of explosives.

Groundwater monitoring began in 1994 and ended in 2001. The FUSRAP PA identified this area as requiring additional investigation. In August 2004, FUSRAP conducted a screening survey of this site to determine if radiological contaminants from USAEC activities are present in soil. PAs of all screening results indicate no radiological contamination present at this area.

Groundwater is being addressed as part of OU-6. OU-6 phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-037

Site Name: NORTH BURN PADS LANDFILL

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Explosives, Metals

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 199012..... | 199605 |
| RD..... | 199705..... | 199812 |
| RA(C)..... | 199801..... | 199812 |
| LTM..... | 199812..... | 204309 |

RIP Date: N/A

RC Date: 199812

SITE DESCRIPTION

NBPLF was used to receive the remnants from the north burn pads; reported to be flashed cans. Contaminated soil from this area was removed in 1998 and segregated by contamination levels into the inert landfill.

This site requires NFA and is considered RC for soils media under IRP; however, LTM, which includes installation controls as a best management practice and five-year reviews will be required for a rolling 30 years.

CLEANUP/EXIT STRATEGY

Cleanup of this site is documented in the Phase 1 RA report dated October 2000. No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-037G

Site Name: NORTH BURN PADS LANDFILL GRNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

The North Burn Pads Landfill measures approximately 75 by 475 feet and received the remnants (reported to be flashed cans and containers) from the North Burn Pads. Landfill activities occurred from 1968 to 1972.

A cleanup operation was performed in 1980 during which some of the contents of the landfill were taken to the IDA.

Results from the SI in 1991 did not indicate significant contamination; however, RI work was initiated to fill data gaps. The RI work completed in May 1996 found metals in soil and groundwater. Pre-design sampling in 1997-1998 found high levels of explosives in soil and leachate.

Groundwater monitoring began in 1994.

RDX in concentrations of less than 10 ppb have been found in the groundwater in upper bedrock (30-40 feet bgs).

The FUSRAP PA identified this area as requiring additional investigation. In August 2004, FUSRAP conducted a screening survey of this site to determine if radiological contaminants from USAEC activities are present in soil. PAs of all screening results indicate no radiological contamination present at this area.

Groundwater is being addressed as part of OU-6. OU-6 phase progress will be tracked here, but funding requirements will be tracked under Site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-038

Site Name: BUILDING 600-86 SEPTIC SYSTEM

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

| Phases | Start | End |
|------------------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 199012..... | 199605 |
| LTM..... | 199605..... | 204309 |
| RIP Date: N/A | | |
| RC Date: 199605 | | |

SITE DESCRIPTION

Building 600-86 served two known roles since its construction. From 1941 to 1953 it was an analytical laboratory. Prior to that time the building had been used to store RCRA hazardous wastes. The building was removed as part of the facilities reduction program.

This site requires NFA and is considered RC for soils media under IRP; however, LTM, which includes installation controls as a best management practice and five-year reviews will be required for a rolling 30 years. Costs are captured under IAAP-020.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-038G

Site Name: BUILDING 600-86 SEPTIC SYS GNDWTR

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

This site consists of the contamination from past activities. Any contamination from current and future activities will be addressed with non-ER,A funding.

Building 600-86 was located in the north-central portion of the installation. This building has served in several roles since its construction in 1941.

It was an analytical laboratory from 1941 to 1953. In 1985, two rooms in the building were used to store RCRA hazardous wastes. Room A was used to store spent solvents with a permitted capacity of 2640 gallons. Room B was used to store waste liquids containing cyanide salts. Both rooms had concrete curbing around the perimeter. Small amounts of solvents that may be contaminated with explosives were accumulated in Room C, then filtered through a carbon filter column before being taken off-site.

The function of the laboratory was to perform drinking water and wastewater analyses, as well as analysis of primer mixes containing lead azide in quantities of 10 to 20 milligrams. The waste from the primer tests was deactivated with ceric ammonium nitrate and the resultant waste solution was disposed of in the Explosive Disposal Area (IAAP-012).

The laboratory building was constructed with its own septic tank and drain. Sometime after 1983, sludge was removed from the septic tank and the tank was filled with sand. The building was torn down under the Facilities Reduction Program in 2006.

Groundwater is being addressed as part of OU-6. OU-6 phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-039
Site Name: FIRE TRAINING PIT

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Explosives, Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 199012..... | 200409 |
| IRA..... | 199603..... | 200409 |
| LTM..... | 200409..... | 204309 |

RIP Date: N/A

RC Date: 200409

SITE DESCRIPTION

The Fire Training Pit (FTP) is an unlined pit (approximately 40 ft by 16 ft by two ft). During training sessions, 55-gallon drums of solvent and/or fuel was placed in the pit and set ablaze, then extinguished by firemen. Contaminated soils were removed in 1998. These soils were treated using LTDD and disposed into Trench 6 of the inert landfill in 1999.

Supplemental excavation was completed in 2004.

This site is NFA for soils media under IRP; however, LTM, which includes installation controls as a best management practice and five-year reviews will be required for a rolling 30 years. Costs are captured under IAAP-020.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-039G

Site Name: FIRE TRAINING PIT - GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Metals, Semi-volatiles (SVOC),
Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

Formerly, the FTP was an unlined pit measuring approximately 40 ft by 16 ft by two ft and was used from 1982 to 1987. During training sessions, 55-gallon drums of solvents and petroleum products were set ablaze then extinguished by firefighters.

In 1991 the PA/SI was completed and the RI was completed in May 1996. Investigations found localized soil and groundwater contamination consisting of significant quantities of VOCs (including chlorinated solvents), SVOCs, metals, and low levels of dioxins and furans. In 1994 groundwater monitoring began.

High levels of VOCs in concentrations greater than 30 ppm have been found in shallow groundwater and the upper bedrock (30 feet bgs). Groundwater contamination has migrated to the Spring Creek tributary.

In 2003, the SRI was completed and was documented in a remedial alternative analysis document. In 2004-2006, the comprehensive watersheds evaluation and supplemental data collection was completed.

In 2005, treatability studies were completed. OU-6 FS is currently underway.

Phase progress will be tracked at this site, but funding requirements will be tracked under site PBC at Iowa. Post-PBC costs will be covered under site IAAP-020.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-040

Site Name: ROUNDHOUSE TRANSFORMER STORAGE AREA

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Polychlorinated Biphenyls (PCB)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 199012..... | 199807 |
| RD..... | 200206..... | 200308 |
| IRA..... | 199907..... | 200005 |
| RA(C)..... | 200305..... | 200508 |
| LTM..... | 200508..... | 204309 |

RIP Date: N/A

RC Date: 200508

SITE DESCRIPTION

The Roundhouse Transformer Storage area has been in use since the 1940s to store transformers pending use or disposal. The storage yard is a flat, graded area with crushed stone on a hard base. An area contaminated with explosives was found in 1997. It is the parking area east of the roundhouse. A 1999 characterization sampling found no explosives above action levels. No soils were removed.

This site requires NFA and is considered RC for soils media under IRP; however, LTM, which includes installation controls as a best management practice and five-year reviews will be required for a rolling 30 years. Costs are captured under IAAP-020.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-040G

Site Name: ROUNDHOUSE TRANSFORMER AREA GRNDWTR

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Polychlorinated Biphenyls (PCB)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

This site consists of contamination from past activities. Any contamination from current and future activities will be addressed with non-ER,A funding.

The area was used since the 1940s to store transformers (which contain PCBs) pending use or disposal; this site is no longer used for PCB storage. The storage yard is a flat, graded area with crushed stone on a hard base. Transformers found to contain greater than 50 ppm PCB were moved to Building L-37-34, the old storage site. Those transformers having less than 50 ppm PCB were moved to an outside storage concrete pad at Yard L, between buildings L-3 and L-4, new storage site E-18. The PA/SI was completed in 1991, the RI was completed in May 1996; samples found PCBs and explosives.

Groundwater is being addressed as part of OU-6. OU-6 phase progress will be tracked here and funding will be tracked under PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-041
Site Name: LINE 3A POND

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals, Semi-volatiles (SVOC)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 200406..... | 201502 |
| RD..... | 200406..... | 201604 |
| RA(C)..... | 200406..... | 201706 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201706

RC Date: 204703

SITE DESCRIPTION

This site addresses soil under OU7. Line 3A pond is assumed to be an excavated, unlined pit, measuring approximately 60 ft by 30 ft by eight feet. The pond area is relatively flat and slopes gently to the west and south. While some sources conflict on this fact, it is generally believed that this site was excavated and backfilled circa 1959.

At Line 3A, casings for bombs were treated with an alkaline de-greaser and solvent paint stripper. The casings were then bathed in phosphoric acid. A diluted chromic acid rinse was then applied. Approximately 15,000 gallons of spent sulfuric and hydrochloric acid were disposed in the pond and neutralized with sodium hydroxide.

The PA/SI was completed in 1991, and the RI was completed in May 1996.

The Army and the USEPA are working through informal dispute resolution for the OU-7 FS.

Phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The Army and the USEPA are executing dispute resolution steps for the draft final OU-7 FS. Groundwater is addressed in OU-6.

Site ID: IAAP-041G

Site Name: LINE 3A POND GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Metals, Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

Line 3A pond is assumed to be an excavated, unlined pit, measuring approximately 60 ft by 30 ft by eight ft. The pond area is relatively flat and slopes gently to the west and south. While some sources conflict on this fact, it is generally believed that this site was excavated and backfilled circa 1959.

At Line 3A, casings for bombs were treated with an alkaline de-greaser and solvent paint stripper. The casings were then bathed in phosphoric acid. And diluted chromic acid rinse was then applied.

Approximately 15,000 gallons of spent sulfuric and hydrochloric acid were disposed in the pond and neutralized with sodium hydroxide.

The PA/SI was completed in 1991, and the RI was completed in May 1996; samples found no explosives or metals above action levels in the soil.

Groundwater, surface water, and sediment are addressed in OU-6. Phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-042G

Site Name: ABANDONED COAL STORAGE YARD GRNDWTR

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Metals, Polycyclic Aromatic Hydrocarbons (PAH)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

During the operation of the Steam Generating Plant Line 1, coal was the primary fuel used. The Coal Pile is bounded on the north and east by railroad tracks and on the southeast by the head of Brush Creek. Although, the coal pile covers an area of approximately three to four acres, runoff may have spread to a greater area.

The SI sampling was completed in 1991 and no significant contamination was found.

Site IAAP-042, Abandoned Coal Storage Yard was eliminated from RI consideration because the installation completed a tate of Iowa Department of Natural Resources Removal Activity. This excavation was summarized in a Finding of No Significant Impact dated Oct. 26, 1992. The RCRA Branch of Region VII USEPA has agreed to this removal action. The removal was completed in late-1993, and the area was covered with clean soil and re-vegetated with native grasses.

The site remains open for groundwater evaluation in OU-6. OU-6 phase progress will be tracked, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-043G

Site Name: FLY ASH DISPOSAL AREA GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Metals, Other (Sulfate), Polycyclic Aromatic Hydrocarbons (PAH)

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

In operation from the 1940s to the 1950s, this area was used for disposal of fly ash, residual coal, clinkers, and other residue from the coal-fired power plant and is nearly five acres in size. The site is abandoned and covered with natural vegetation, but has no soil or clay cover.

The PA/SI was completed in 1991 and the RI was completed in May 1996. The sampling found no significant contamination.

The site remains open for groundwater evaluation in OU-6. OU-6 phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-044

Site Name: LINE 800 & PINKWATER LAGOON

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 197803..... | 199105 |
| SI..... | 197803..... | 199105 |
| RI/FS..... | 199012..... | 199605 |
| RD..... | 200206..... | 200611 |
| IRA..... | 199603..... | 200009 |
| RA(C)..... | 200406..... | 200709 |
| LTM..... | 200709..... | 204309 |

RIP Date: N/A

RC Date: 200709

SITE DESCRIPTION

The Line 800 Pinkwater Lagoon consisted of an unlined, five acre impoundment, four feet deep, surrounded by an earthen berm. This lagoon was located adjacent to Line 800 (IAAP-011) and an intermittent tributary to Brush Creek. The primary activity at Line 800 was ammunition renovation from 1943 to 1980. From 1980 to present, primary activities at Line 800 include remote disassembly of projectiles and assembly of 75 mm and 105 mm blanks. The Pinkwater Lagoon was constructed in 1943 for the disposal of pinkwater effluent from adjacent Line 800 production facilities and sludges trucked in from other line operations within the installation. In 1943, leaching fields associated with the lagoon to include evaporation furrows were constructed. The lagoon also received metal cleaning sludge from Line 3 operations. In the 1970s, this lagoon ceased to be used.

Studies conducted in 1991 through 1998 indicated that primary waste disposed at the site included explosives-contaminated wash water and heavy metals from operations at Line 800 and other production lines. Carbon and fly ash disposal may also have occurred at the site. As a result of the RI sampling 63,236 cy of explosives-contaminated soils were excavated from this area during 1997. The excavated soil contained greater than 80,000 lbs. of explosives. This soil was taken to the IDA (IAAP-020) and sorted by contaminant level and type.

Two additional areas of explosives soil contamination were found in 1998. One area in the southwest portion of the lagoon was found to require no action. The other area, in settling basin No. 1, requires additional characterization and excavation.

The lagoon currently is used as a phytoremediation wetlands treatment cell.

The Army has determined that the facilities at this Line are excess and will pursue non-ER,A funding for building demolition and debris removal, which is listed as an option in the PBC. Additional evaluation of soil beneath the slabs will be required after the demolition.

This site requires NFA and is considered RC for soils media under IRP; however, LTM, which includes installation controls as a best management practice and five-year reviews will be required for a rolling 30 years. Costs are captured in IAAP-020.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination above UU/UE remains.

Site ID: IAAP-044G

Site Name: LINE 800 & PINKWATER LAGOON- GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Explosives

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 197803..... | 199105 |
| SI..... | 197803..... | 199105 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

The Line 800 Pinkwater Lagoon consisted of an unlined, five acre impoundment, four feet deep, surrounded by an earthen berm. This lagoon was located adjacent to Line 800 (IAAP-011) and an intermittent tributary to Brush Creek. From 1943 to 1945 the primary activity at Line 800 was ammunition renovation. The Pinkwater Lagoon was constructed in 1943 for the disposal of pinkwater effluent from adjacent Line 800 production facilities and sludges trucked in from other line operations within the installation.

In 1943 leaching fields associated with the lagoon to include evaporation furrows were constructed. The lagoon also received metal cleaning sludge from Line 3 operations. In the 1970s, this lagoon ceased to be used. This IRP site consists of the groundwater contamination from past activities.

Studies conducted from 1991 through 1998 indicated that primary waste disposed at the site included explosives-contaminated wash water and heavy metals from operations at Line 800 and other production lines. Carbon and fly ash disposal also may have occurred at the site. During 1997, as a result of the RI sampling, 63,236 cy of explosives-contaminated soils were excavated from this area. In July 2001 the supplemental groundwater RI was completed.

In 1991 the PA/SI was completed and in May 1996 an initial RI was completed. In 2004-2006, the comprehensive watersheds evaluation and supplemental data collection was completed. In 2005, treatability studies were completed. OU-6 FS is currently underway.

High levels of explosives in concentrations of greater than 2,500 ppb have been found in shallow groundwater (up to 30 feet bgs). The groundwater discharges into a tributary of Brush Creek.

Phase progress will be tracked at this site, but funding requirements will be tracked under site PBC at Iowa. Post-PBC costs will be covered under site IAAP-020.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: IAAP-046

Site Name: OFF POST CONTAMINATION

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Explosives

Media of Concern: Groundwater, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198505..... | 198510 |
| SI..... | 199209..... | 199305 |
| RI/FS..... | 199906..... | 200509 |
| RD..... | 200406..... | 200609 |
| IRA..... | 199305..... | 200110 |
| RA(C)..... | 200406..... | 200709 |
| RA(O)..... | 200406..... | 204709 |

RIP Date: 200709

RC Date: 204709

SITE DESCRIPTION

Historically, discharges of explosive-contaminated wastewater have resulted in surface water and groundwater contamination off-post, mainly in the Brush Creek watershed.

In 1993, off-post contamination of some private drinking water wells with explosives [RDX and 2,6 dinitrotoluene (DNT)] was confirmed. The IAAAP contracted to connect residents in the contaminated area to the public water supply. This RA was designed to eliminate the pathway of future exposures to contaminated drinking water and was completed in fall 1994. IAAAP is investigating groundwater contamination both on- and off-post. In 1998 the off-post efforts were accelerated due to increased stakeholder interest.

High levels of RDX (up to 150 micrograms per liter) were detected in the Brush Creek watershed approximately two miles off-post.

In 2001, IAAAP provided connection of Rathbun Regional Water to 34 homeowners who had declined this in 1993. The total number of homes now connected to the Rathbun Regional Water supply is 188.

In 2003, during annual groundwater sampling, groundwater was analyzed for radionuclides by FUSRAP. Only naturally occurring isotopes were detected.

In 2004, the FS and PP were completed. The preferred alternative is enhanced bioremediation.

In 2005, the ROD for off-post groundwater was signed. It indicated that the remedy for the high concentration zone be below 50 ppb by 2012 and that concentrations in the entire plume achieve human health goals (two ppb) or less by 2047.

Phase progress will be tracked for this site, but funding for remedy requirements will be tracked under site PBC at Iowa through FY14. Lease costs are covered at this site during the PBC (FY11-FY14). Post-PBC lease and monitoring costs will be tracked at this site.

CLEANUP/EXIT STRATEGY

The implementation of the OU-3 ROD for off-post groundwater will continue. Enhanced degradation will continue until RDX in groundwater is below 50 ppb throughout the plume. The remedy will continue with monitored natural attenuation (MNA), and institutional and engineering controls until acceptable human health risks are achieved. The ROD requires levels less than two ppb by 2047.

Site ID: IAAP-047

Site Name: Central Test Area

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Explosives, Metals

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 200406..... | 200710 |
| RD..... | 200406..... | 200710 |
| RA(C)..... | 200406..... | 200710 |
| LTM..... | 200710..... | 204309 |
| RIP Date: | N/A | |
| RC Date: | 200710 | |

SITE DESCRIPTION

The Central Test Area was used to test-fire hand grenades, adaptor boosters, and aerial mines. Very little historical documentation is available on this particular site, but layout drawings are dated back as far as 1943. It is not known exactly when this area was in operation.

Detonations were performed in the field north and east of the Central Test Area. Steel fixtures still exist at this site. Historical documentation indicated that this area is 800 feet northeast of the Central Test Area laboratory.

Approximately 500 feet northwest of Line 4A and 1,200 feet south of Line 5B, but still within the fence line of Line 5, lies Building 600-84. This building was constructed in 1941 and is considered part of the Central Test Area. The walled-in area northeast of the building was used as a test site for the inside charge of grenades. This charge was composed of lead styphnate, black powder, and tetryl booster. The outer charge was TNT and RDX.

A test pit existed approximately 815 feet to the northeast of Building 600-84. Building 600-84 is currently occupied by AET Environmental. The test pit was approximately nine ft by 14 ft with wooden walls covered by steel plates. The floor was earthen with a concrete walkway. A concrete pedestal capped by a steel plate was anchored in the floor of the pit. Soil was sloped up the walls to a height of approximately five feet. An operator's building was located 105 feet southwest of the test-fire pit. Only limited information about the operations in this pit can be found.

A small area to the west of the test pit area contains a metal triangular stand or tripod used to hold components to be test detonated.

During the historical site assessment, it was determined there was a potential MEC concern at this site. A geophysical density survey for MEC was performed at the central test area in the fall of 2004. The MEC density survey was performed using an electromagnetic metal detector to a depth of four feet bgs.

MEC construction support was provided for the two identified soil removal areas. Soil was excavated and transported to the IDA for treatment.

This site requires NFA and is considered RC for soils media under IRP; however, LTM, which includes installation controls as a best management practice and five-year reviews will be required for a rolling 30 years. Costs are captured in IAAP-020.

CLEANUP/EXIT STRATEGY

No further remedial action or LUCs are required per the ROD; however, LTM, which includes internal installation-specific restrictions (best management practices) and five-year reviews will be required for a rolling 30 years because contamination

Site ID: IAAP-047
Site Name: Central Test Area

above UU/UE remains. This applies only to soils being addressed by IRP.

Site ID: IAAP-047G

Site Name: Central Test Area GROUNDWATER

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 199012..... | 199108 |
| RI/FS..... | 200406..... | 201509 |
| RD..... | 200406..... | 201611 |
| RA(C)..... | 200406..... | 201801 |
| RA(O)..... | 200406..... | 204309 |

RIP Date: 201801

RC Date: 204309

SITE DESCRIPTION

The Central Test Area was used to test-fire hand grenades, adaptor boosters, and aerial mines. Very little historical documentation is available on this particular site, but layout drawings are dated back as far as 1943. It is not known exactly when this area was in operation.

Detonations were performed in the field north and east of the central test area. Steel fixtures still exist at this site. Historical documentation indicated that this area is 800 ft northeast of the Central Test Area laboratory.

Approximately 500 ft northwest of Line 4A and 1,200 feet south of Line 5B, but still within the fence line of Line 5, lies Building 600-84. This building was constructed in 1941 and is considered part of the central test area. The walled-in area northeast of the building was used as a test site for the inside charge of grenades. This charge was composed of lead styphnate, black powder, and tetryl booster. The outer charge was TNT and RDX.

A test pit existed approximately 815 ft to the northeast of Building 600-84. Building 600-84 is currently occupied by AET Environmental. The test pit was approximately nine ft by 14 ft with wooden walls covered by steel plates. The floor was earthen with a concrete walkway. A concrete pedestal capped by a steel plate was anchored in the floor of the pit. Soil was sloped up the walls to a height of approximately five ft. An operator's building was located 105 ft southwest of the test-fire pit. Only limited information about the operations in this pit can be found.

A small area to the west of the test pit area contains a metal triangular stand or tripod used to hold components to be test detonated.

Groundwater is addressed in OU-6. Phase progress will be tracked here, but funding requirements will be tracked under site PBC at Iowa.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: PBC at Iowa
Site Name: PBC at Iowa

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Asbestos, Dioxins/Dibenzofurans, Explosives, Herbicides, Lead Based Paint, Metals, Nitrate/Nitrite, Perchlorate, Pesticides, Petroleum, Oil and Lubricants (POL), Polychlorinated Biphenyls (PCB), Polycyclic Aromatic Hydrocarbons (PAH), Radionuclides, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Soil, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 200308..... | 200308 |
| RI/FS..... | 200406..... | 201310 |
| RA(C)..... | 200406..... | 201409 |
| RA(O)..... | 201109..... | 201409 |

RIP Date: 201409

RC Date: 201409

SITE DESCRIPTION

This site was created to address funding information for the PBC for Iowa AAP. The period of performance for this contract is 10 years beginning in 2004. The active sites currently captured under the PBC contract are IAAP-002G, 0IAAP-03G, IAAP-004G, IAAP-005, IAAP-006, IAAP-007, IAAP-008, IAAP-009, IAAP-010G, IAAP-012G, IAAP-013, IAAP-014, IAAP-015, IAAP-016, IAAP-017, IAAP-018, IAAP-020, IAAP-020G, IAAP-022, IAAP-025, IAAP-028, IAAP-030, IAAP-031, IAAP-032G, IAAP-036, IAAP-037, IAAP-038, IAAP-039G, IAAP-040, IAAP-041, IAAP-042, IAAP-043, IAAP-044G, IAAP-046, IAAP-047.

The period of performance of the current PBC is through September 2014.

CLEANUP/EXIT STRATEGY

Refer to individual site descriptions for site-specific cleanup strategies.

Site Closeout (No Further Action) Summary

| Site ID | Site Name | NFA Date | Documentation |
|----------|--|----------|--|
| IAAP-001 | LINE 1 AMMO LAP(MISSILE/FORMER AEC) | 200309 | Soil contamination at Line 1 will be addressed by FUSRAP. IRP will address the groundwater under site CC-001G. |
| IAAP-008 | LINE 7 AMMO LAP(FUZE/BLANK) | 199605 | Contamination not found above action levels. Confirmation sampling conducted after the building deconstruction in January 2006. |
| IAAP-011 | LINE 800 AMMO RENOV | 200009 | Merged with IAAP-044 |
| IAAP-014 | BOXCAR UNLOADING AREA | 199606 | Samples taken during the SI found no significant contamination. Per the 1996 RI, no corrective action was recommended. This site is NFA for sols media under IRP. |
| IAAP-019 | CONTAMINATED CLOTHING LAUNDRY | 199706 | Transferred to CC Program in 1997. In 2009, the site became DERP eligible and was transferred back to IRP as part of a policy change and will be addressed under site CC-01. |
| IAAP-021 | DEMOLITION AREA/DEACTIVATION FURNACE | 200009 | Transferred to CC Program. |
| IAAP-022 | UNIDENTIFIED SUBSTANCE(OIL) WASTE SITE | 199108 | The SI sampling was completed in 1991 and no significant contamination was found. This site requires NFA under the IRP. |
| IAAP-024 | CONTAMINATED WASTE PROCESSOR | 199605 | Transferred to CC Program. |
| IAAP-026 | SEWAGE TREATMENT PLANT/DRYING BEDS | 200010 | Transferred to CC Program. |
| IAAP-027 | FLY ASH LANDFILL (NEW BLDG 400-139) | 199605 | Transferred to CC Program. |
| IAAP-029 | LINE 3A SEWAGE TREATMENT PLANT/DRY BED | 200010 | Transferred to CC Program. |
| IAAP-030 | FIRING SITE AREA | 200309 | Transferred to FUSRAP. |
| IAAP-031 | YARD B AMMO BOX CHIPPER DISPOSAL PIT | 200010 | Investigations conducted during 1997 have not substantiated the former existence of this site. If this site is ever located it will be investigated. |
| IAAP-042 | ABANDONED COAL STORAGE YARD | 199310 | The SI sampling was completed in 1991 and no significant contamination was found. This site is NFA for soils media under IRP per the PA/SI and RI. |
| IAAP-043 | FLY ASH DISPOSAL AREA | 200010 | The PA/SI was completed in 1991; the RI was completed in May 1996; sampling found no significant contamination. This site is NFA for the soils media under IRP. |
| IAAP-045 | FORMER FUEL STATION UST'S | 200208 | Certificate of No Further Action dated Aug. 9, 2004 |

IRP Schedule

Date of IRP Inception: 197803

Past Phase Completion Milestones

1986

PA (IAAP-046 - OFF POST CONTAMINATION)

1989

PA (IAAP-022 - UNIDENTIFIED SUBSTANCE(OIL) WASTE SITE)

1991

PA (IAAP-001 - LINE 1 AMMO LAP(MISSILE/FORMER AEC), IAAP-002 - LINE 2 AMMO LAP(ARTILLERY/SHAPE), IAAP-002G - LINE 2 AMMO LAP - GROUNDWATER, IAAP-003 - LINE 3 AMMO LAP (ARTILLERY), IAAP-003G - LINE 3 AMMO LAP - GROUNDWATER, IAAP-004 - LINE 3A AMMO LAP (ARTILLERY), IAAP-004G - LINE 3A AMMO LAP - GROUNDWATER, IAAP-005 - LINE 4A AND 4B AMMO ASSEMBLY, IAAP-005G - LINE 4A/4B AMMO ASSEMBLY GROUNDATER, IAAP-006 - LINE 5A AND 5B AMMO ASSEMBLY, IAAP-006G - LINE 5A/5B AMMO ASSMBLY GROUNDWATER, IAAP-007 - LINE 6 AMMO PRODUCTION(DETONATOR), IAAP-007G - LINE 6 AMMO PRODUCTION GROUNDWATER, IAAP-008 - LINE 7 AMMO LAP(FUZE/BLANK), IAAP-008G - LINE 7 AMMO LAP GROUNDWATER, IAAP-009 - LINE 8 AMMO LAP(FUZE/ROCKET), IAAP-009G - LINE 8 AMMO LAP GROUNDWATER, IAAP-010 - LINE 9 AMMO LAP (MINE), IAAP-010G - LINE 9 AMMO LAP - GROUNDWATER, IAAP-011 - LINE 800 AMMO RENOV, IAAP-012 - EXPLOSIVE DISPOSAL AREA (EAST BURN PADS), IAAP-012G - EDA/EAST BURN PADS - GROUNDWATER, IAAP-013 - INCENDIARY DISPOSAL AREA (EAST YARD D), IAAP-013G - INCENDIARY DISPOSAL AREA GROUNDWATR, IAAP-014 - BOXCAR UNLOADING AREA, IAAP-014G - BOX CAR UNLOADING AREA GROUNDWATER, IAAP-015 - OLD FLY ASH WASTE PILE, IAAP-015G - OLD FLY ASH WASTE PILE GROUNDWATER, IAAP-016 - LINE 1 FORMER WASTEWATER IMPOUNDMENT, IAAP-016G - LINE 1 FORMER IMPOUNDMENT GRNDWATER, IAAP-017 - PESTICIDE PIT, IAAP-017G - PESTICIDE PIT GROUNDWATER, IAAP-018 - POSSIBLE DEMOLITION SITE(SOUTH YARD G), IAAP-018G - POSSIBLE DEMOLITION SITE GRNDWATER, IAAP-019 - CONTAMINATED CLOTHING LAUNDRY, IAAP-020 - INERT DISPOSAL AREA, IAAP-020G - INERT DISPOSAL AREA - GROUNDWATER, IAAP-021 - DEMOLITION AREA/DEACTIVATION FURNACE, IAAP-022G - UNIDENTIFIED SUBSTANCE (OIL) GNDWTR, IAAP-024 - CONTAMINATED WASTE PROCESSOR, IAAP-025 - EXPLOSIVE WASTE INCINERATOR, IAAP-025G - EXPLOSIVE WASTE INCINERATOR GRNDWTR, IAAP-026 - SEWAGE TREATMENT PLANT/DRYING BEDS, IAAP-027 - FLY ASH LANDFILL (NEW BLDG 400-139), IAAP-028 - CONSTRUCTION DEBRIS DISPOSAL AREA , IAAP-028G - CONSTRUCTION DEBRIS DISPOSAL GRDWTR, IAAP-029 - LINE 3A SEWAGE TREATMENT PLANT/DRY BED, IAAP-030 - FIRING SITE AREA, IAAP-030G - FIRING SITE AREA GROUNDWATER, IAAP-031 - YARD B AMMO BOX CHIPPER DISPOSAL PIT, IAAP-031G - AMMO BOX CHIPPER DISPOSAL GRNDWATER, IAAP-032 - BURN CAGES, BCLF; WEST BURN PADS, WBPLF, IAAP-032G - WEST BURN PAD AREA - GROUNDWATER, IAAP-036 - NORTH BURN PADS (2) (NEAR IAAP-024), IAAP-036G - NORTH BURN PADS GROUNDWATER, IAAP-037 - NORTH BURN PADS LANDFILL, IAAP-037G - NORTH BURN PADS LANDFILL GRNDWATER, IAAP-038 - BUILDING 600-86 SEPTIC SYSTEM, IAAP-038G - BUILDING 600-86 SEPTIC SYS GNDWTR, IAAP-039 - FIRE TRAINING PIT, IAAP-039G - FIRE TRAINING PIT - GROUNDWATER, IAAP-040 - ROUNDHOUSE TRANSFORMER STORAGE AREA, IAAP-040G - ROUNDHOUSE TRANSFORMER AREA GRNDWTR, IAAP-041 - LINE 3A POND, IAAP-041G - LINE 3A POND GROUNDWATER, IAAP-042 - ABANDONED COAL STORAGE YARD, IAAP-042G - ABANDONED COAL STORAGE YARD GRNDWTR, IAAP-043 - FLY ASH DISPOSAL AREA, IAAP-043G - FLY ASH DISPOSAL AREA GROUNDWATER, IAAP-044 - LINE 800 & PINKWATER LAGOON, IAAP-044G - LINE 800 & PINKWATER LAGOON- GROUNDWATER, IAAP-047 - Central Test Area, IAAP-047G - Central Test Area GROUNDWATER)

SI

(IAAP-001 - LINE 1 AMMO LAP(MISSILE/FORMER AEC), IAAP-002 - LINE 2 AMMO LAP(ARTILLERY/SHAPE), IAAP-002G - LINE 2 AMMO LAP - GROUNDWATER, IAAP-003 - LINE 3 AMMO LAP (ARTILLERY), IAAP-003G - LINE 3 AMMO LAP - GROUNDWATER, IAAP-004 - LINE 3A AMMO LAP (ARTILLERY), IAAP-004G - LINE 3A AMMO LAP - GROUNDWATER, IAAP-005 - LINE 4A AND 4B AMMO ASSEMBLY, IAAP-005G - LINE 4A/4B AMMO ASSEMBLY GROUNDATER, IAAP-006 - LINE 5A AND 5B AMMO ASSEMBLY, IAAP-006G - LINE 5A/5B AMMO ASSMBLY GROUNDWATER, IAAP-007 - LINE 6 AMMO PRODUCTION(DETONATOR), IAAP-007G - LINE 6 AMMO PRODUCTION GROUNDWATER, IAAP-008 - LINE 7 AMMO LAP(FUZE/BLANK), IAAP-008G - LINE 7 AMMO LAP GROUNDWATER, IAAP-009 - LINE 8 AMMO LAP(FUZE/ROCKET), IAAP-009G - LINE 8 AMMO LAP GROUNDWATER, IAAP-010 - LINE 9 AMMO LAP (MINE), IAAP-010G - LINE 9 AMMO LAP - GROUNDWATER, IAAP-011 - LINE 800 AMMO RENOV,

IAAP-012 - EXPLOSIVE DISPOSAL AREA (EAST BURN PADS), IAAP-012G - EDA/EAST BURN PADS - GROUNDWATER, IAAP-013 - INCENDIARY DISPOSAL AREA (EAST YARD D), IAAP-013G - INCENDIARY DISPOSAL AREA GROUNDWATER, IAAP-014 - BOXCAR UNLOADING AREA, IAAP-014G - BOX CAR UNLOADING AREA GROUNDWATER, IAAP-015 - OLD FLY ASH WASTE PILE, IAAP-015G - OLD FLY ASH WASTE PILE GROUNDWATER, IAAP-016 - LINE 1 FORMER WASTEWATER IMPOUNDMENT, IAAP-016G - LINE 1 FORMER IMPOUNDMENT GRNDWATER, IAAP-017 - PESTICIDE PIT, IAAP-017G - PESTICIDE PIT GROUNDWATER, IAAP-018 - POSSIBLE DEMOLITION SITE(SOUTH YARD G), IAAP-018G - POSSIBLE DEMOLITION SITE GRNDWATER, IAAP-019 - CONTAMINATED CLOTHING LAUNDRY, IAAP-020 - INERT DISPOSAL AREA, IAAP-020G - INERT DISPOSAL AREA - GROUNDWATER, IAAP-021 - DEMOLITION AREA/DEACTIVATION FURNACE, IAAP-022 - UNIDENTIFIED SUBSTANCE(OIL) WASTE SITE, IAAP-022G - UNIDENTIFIED SUBSTANCE (OIL) GNDWTR, IAAP-024 - CONTAMINATED WASTE PROCESSOR, IAAP-025 - EXPLOSIVE WASTE INCINERATOR, IAAP-025G - EXPLOSIVE WASTE INCINERATOR GRNDWTR, IAAP-026 - SEWAGE TREATMENT PLANT/DRYING BEDS, IAAP-027 - FLY ASH LANDFILL (NEW BLDG 400-139), IAAP-028 - CONSTRUCTION DEBRIS DISPOSAL AREA , IAAP-028G - CONSTRUCTION DEBRIS DISPOSAL GRDWTR, IAAP-029 - LINE 3A SEWAGE TREATMENT PLANT/DRY BED, IAAP-030 - FIRING SITE AREA, IAAP-030G - FIRING SITE AREA GROUNDWATER, IAAP-031 - YARD B AMMO BOX CHIPPER DISPOSAL PIT, IAAP-031G - AMMO BOX CHIPPER DISPOSAL GRNDWATER, IAAP-032 - BURN CAGES, BCLF; WEST BURN PADS, WBPLF, IAAP-032G - WEST BURN PAD AREA - GROUNDWATER, IAAP-036 - NORTH BURN PADS (2) (NEAR IAAP-024), IAAP-036G - NORTH BURN PADS GROUNDWATER, IAAP-037 - NORTH BURN PADS LANDFILL, IAAP-037G - NORTH BURN PADS LANDFILL GRNDWATER, IAAP-038 - BUILDING 600-86 SEPTIC SYSTEM, IAAP-038G - BUILDING 600-86 SEPTIC SYS GNDWTR, IAAP-039 - FIRE TRAINING PIT, IAAP-039G - FIRE TRAINING PIT - GROUNDWATER, IAAP-040 - ROUNDHOUSE TRANSFORMER STORAGE AREA, IAAP-040G - ROUNDHOUSE TRANSFORMER AREA GRNDWTR, IAAP-041 - LINE 3A POND, IAAP-041G - LINE 3A POND GROUNDWATER, IAAP-042 - ABANDONED COAL STORAGE YARD, IAAP-042G - ABANDONED COAL STORAGE YARD GRNDWTR, IAAP-043 - FLY ASH DISPOSAL AREA, IAAP-043G - FLY ASH DISPOSAL AREA GROUNDWATER, IAAP-044 - LINE 800 & PINKWATER LAGOON, IAAP-044G - LINE 800 & PINKWATER LAGOON- GROUNDWATER, IAAP-047 - Central Test Area, IAAP-047G - Central Test Area GROUNDWATER)

1993

RI/FS (IAAP-042 - ABANDONED COAL STORAGE YARD)
 SI (IAAP-046 - OFF POST CONTAMINATION)
 RD (IAAP-042 - ABANDONED COAL STORAGE YARD)

1994

RA(C) (IAAP-042 - ABANDONED COAL STORAGE YARD)

1995

RD (IAAP-020 - INERT DISPOSAL AREA)
 RI/FS (IAAP-020 - INERT DISPOSAL AREA)

1996

RI/FS (IAAP-002 - LINE 2 AMMO LAP(ARTILLERY/SHAPE), IAAP-003 - LINE 3 AMMO LAP (ARTILLERY), IAAP-004 - LINE 3A AMMO LAP (ARTILLERY), IAAP-008 - LINE 7 AMMO LAP(FUZE/BLANK), IAAP-010 - LINE 9 AMMO LAP (MINE), IAAP-014 - BOXCAR UNLOADING AREA, IAAP-024 - CONTAMINATED WASTE PROCESSOR, IAAP-027 - FLY ASH LANDFILL (NEW BLDG 400-139), IAAP-037 - NORTH BURN PADS LANDFILL, IAAP-038 - BUILDING 600-86 SEPTIC SYSTEM, IAAP-044 - LINE 800 & PINKWATER LAGOON)
 IRA (IAAP-017 - PESTICIDE PIT)

1997

RI/FS (IAAP-012 - EXPLOSIVE DISPOSAL AREA (EAST BURN PADS), IAAP-016 - LINE 1 FORMER WASTEWATER IMPOUNDMENT, IAAP-019 - CONTAMINATED CLOTHING LAUNDRY)
 RA(C) (IAAP-016 - LINE 1 FORMER WASTEWATER IMPOUNDMENT)

1998

RD (IAAP-006 - LINE 5A AND 5B AMMO ASSEMBLY, IAAP-012 - EXPLOSIVE DISPOSAL AREA (EAST BURN PADS))
 RI/FS (IAAP-006 - LINE 5A AND 5B AMMO ASSEMBLY, IAAP-032 - BURN CAGES, BCLF; WEST BURN PADS, WBPLF, IAAP-040 - ROUNDHOUSE TRANSFORMER STORAGE AREA)

1999

RD (IAAP-032 - BURN CAGES, BCLF; WEST BURN PADS, WBPLF, IAAP-037 - NORTH BURN PADS LANDFILL)
 RA(C) (IAAP-012 - EXPLOSIVE DISPOSAL AREA (EAST BURN PADS), IAAP-037 - NORTH BURN PADS LANDFILL)

2000

PA (IAAP-045 - FORMER FUEL STATION UST'S)
 IRA (IAAP-011 - LINE 800 AMMO RENOV, IAAP-020 - INERT DISPOSAL AREA, IAAP-021 - DEMOLITION AREA/DEACTIVATION FURNACE, IAAP-040 - ROUNDHOUSE TRANSFORMER STORAGE AREA, IAAP-044 - LINE 800 & PINKWATER LAGOON)
 RI/FS (IAAP-007 - LINE 6 AMMO PRODUCTION(DETONATOR), IAAP-009 - LINE 8 AMMO LAP(FUZE/ROCKET), IAAP-011 - LINE 800 AMMO RENOV, IAAP-021 - DEMOLITION AREA/DEACTIVATION FURNACE)
 RA(C) (IAAP-006 - LINE 5A AND 5B AMMO ASSEMBLY)

2001

RD (IAAP-045 - FORMER FUEL STATION UST'S)
 RI/FS (IAAP-005 - LINE 4A AND 4B AMMO ASSEMBLY, IAAP-026 - SEWAGE TREATMENT PLANT/DRYING BEDS, IAAP-029 - LINE 3A SEWAGE TREATMENT PLANT/DRY BED, IAAP-031 - YARD B AMMO BOX CHIPPER DISPOSAL PIT, IAAP-043 - FLY ASH DISPOSAL AREA, IAAP-045 - FORMER FUEL STATION UST'S)

2002

RA(C) (IAAP-045 - FORMER FUEL STATION UST'S)
 IRA (IAAP-046 - OFF POST CONTAMINATION)

2003

PA (PBC at Iowa - PBC at Iowa)
 RA(C) (IAAP-032 - BURN CAGES, BCLF; WEST BURN PADS, WBPLF)
 RD (IAAP-005 - LINE 4A AND 4B AMMO ASSEMBLY, IAAP-009 - LINE 8 AMMO LAP(FUZE/ROCKET), IAAP-010 - LINE 9 AMMO LAP (MINE), IAAP-040 - ROUNDHOUSE TRANSFORMER STORAGE AREA)
 RI/FS (IAAP-001 - LINE 1 AMMO LAP(MISSILE/FORMER AEC), IAAP-030 - FIRING SITE AREA, IAAP-036 - NORTH BURN PADS (2) (NEAR IAAP-024))

2004

IRA (IAAP-039 - FIRE TRAINING PIT)
 RI/FS (IAAP-039 - FIRE TRAINING PIT)

2005

RI/FS (IAAP-046 - OFF POST CONTAMINATION)
 RA(C) (IAAP-005 - LINE 4A AND 4B AMMO ASSEMBLY, IAAP-009 - LINE 8 AMMO LAP(FUZE/ROCKET), IAAP-010 - LINE 9 AMMO LAP (MINE), IAAP-040 - ROUNDHOUSE TRANSFORMER STORAGE AREA)

2006

RD (IAAP-046 - OFF POST CONTAMINATION)

2007

RD (IAAP-002 - LINE 2 AMMO LAP(ARTILLERY/SHAPE), IAAP-003 - LINE 3 AMMO LAP (ARTILLERY), IAAP-004 - LINE 3A AMMO LAP (ARTILLERY), IAAP-007 - LINE 6 AMMO PRODUCTION(DETONATOR), IAAP-044 - LINE 800 & PINKWATER LAGOON)
 RA(C) (IAAP-002 - LINE 2 AMMO LAP(ARTILLERY/SHAPE), IAAP-003 - LINE 3 AMMO LAP (ARTILLERY), IAAP-004 - LINE 3A AMMO LAP (ARTILLERY), IAAP-007 - LINE 6 AMMO PRODUCTION(DETONATOR), IAAP-044 - LINE 800 & PINKWATER LAGOON, IAAP-046 - OFF POST CONTAMINATION)

2008

RI/FS (IAAP-013 - INCENDIARY DISPOSAL AREA (EAST YARD D), IAAP-018 - POSSIBLE DEMOLITION SITE(SOUTH YARD G), IAAP-047 - Central Test Area)

RD (IAAP-013 - INCENDIARY DISPOSAL AREA (EAST YARD D), IAAP-018 - POSSIBLE DEMOLITION SITE(SOUTH YARD G), IAAP-047 - Central Test Area)

RA(C) (IAAP-013 - INCENDIARY DISPOSAL AREA (EAST YARD D), IAAP-018 - POSSIBLE DEMOLITION SITE(SOUTH YARD G), IAAP-047 - Central Test Area)

2011

RA(C) (IAAP-020 - INERT DISPOSAL AREA)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

| Site ID | Site Name | ROD/DD Title | ROD/DD Date |
|-----------|--|--------------------------------|-------------|
| IAAP-024 | CONTAMINATED WASTE PROCESSOR | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-012 | EXPLOSIVE DISPOSAL AREA (EAST BURN PADS) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-011 | LINE 800 AMMO RENOV | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-026 | SEWAGE TREATMENT PLANT/DRYING BEDS | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-044G | LINE 800 & PINKWATER LAGOON- GROUNDWATER | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-006 | LINE 5A AND 5B AMMO ASSEMBLY | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-020 | INERT DISPOSAL AREA | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-037 | NORTH BURN PADS LANDFILL | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-010 | LINE 9 AMMO LAP (MINE) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-015 | OLD FLY ASH WASTE PILE | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-041 | LINE 3A POND | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-039G | FIRE TRAINING PIT - GROUNDWATER | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-018 | POSSIBLE DEMOLITION SITE(SOUTH YARD G) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-028 | CONSTRUCTION DEBRIS DISPOSAL AREA | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-027 | FLY ASH LANDFILL (NEW BLDG 400-139) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-007 | LINE 6 AMMO PRODUCTION(DETONATOR) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-043 | FLY ASH DISPOSAL AREA | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-038 | BUILDING 600-86 SEPTIC SYSTEM | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-021 | DEMOLITION AREA/DEACTIVATION FURNACE | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-019 | CONTAMINATED CLOTHING LAUNDRY | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-032 | BURN CAGES, BCLF; WEST BURN PADS, WBPLF | FINAL INSTALLATION ROD - OU #4 | 20130930 |

IRP Schedule

| | | | |
|-----------|---|--------------------------------|----------|
| IAAP-032G | WEST BURN PAD AREA - GROUNDWATER | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-003G | LINE 3 AMMO LAP - GROUNDWATER | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-029 | LINE 3A SEWAGE TREATMENT PLANT/DRY BED | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-016 | LINE 1 FORMER WASTEWATER IMPOUNDMENT | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-031 | YARD B AMMO BOX CHIPPER DISPOSAL PIT | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-045 | FORMER FUEL STATION UST'S | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-004 | LINE 3A AMMO LAP (ARTILLERY) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-002 | LINE 2 AMMO LAP(ARTILLERY/SHAPE) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-025 | EXPLOSIVE WASTE INCINERATOR | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-044 | LINE 800 & PINKWATER LAGOON | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-046 | OFF POST CONTAMINATION | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-009 | LINE 8 AMMO LAP(FUZE/ROCKET) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-036 | NORTH BURN PADS (2) (NEAR IAAP-024) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-010G | LINE 9 AMMO LAP - GROUNDWATER | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-039 | FIRE TRAINING PIT | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-040 | ROUNDHOUSE TRANSFORMER STORAGE AREA | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-013 | INCENDIARY DISPOSAL AREA (EAST YARD D) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-003 | LINE 3 AMMO LAP (ARTILLERY) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-004G | LINE 3A AMMO LAP - GROUNDWATER | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-005 | LINE 4A AND 4B AMMO ASSEMBLY | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-022 | UNIDENTIFIED SUBSTANCE(OIL) WASTE SITE | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-017 | PESTICIDE PIT | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-001 | LINE 1 AMMO LAP(MISSILE/FORMER AEC) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-012G | EDA/EAST BURN PADS - GROUNDWATER | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-008 | LINE 7 AMMO LAP(FUZE/BLANK) | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-014 | BOXCAR UNLOADING AREA | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-030 | FIRING SITE AREA | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-020G | INERT DISPOSAL AREA - GROUNDWATER | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-002G | LINE 2 AMMO LAP - GROUNDWATER | FINAL INSTALLATION ROD - OU #4 | 20130930 |

IRP Schedule


| | | | |
|-----------|--|--------------------------------|----------|
| IAAP-042 | ABANDONED COAL STORAGE YARD | FINAL INSTALLATION ROD - OU #4 | 20130930 |
| IAAP-032G | WEST BURN PAD AREA - GROUNDWATER | FINAL GROUNDWATER ROD - OU #3 | 20130930 |
| IAAP-004G | LINE 3A AMMO LAP - GROUNDWATER | FINAL GROUNDWATER ROD - OU #3 | 20130930 |
| IAAP-044 | LINE 800 & PINKWATER LAGOON | FINAL GROUNDWATER ROD - OU #3 | 20130930 |
| IAAP-046 | OFF POST CONTAMINATION | FINAL GROUNDWATER ROD - OU #3 | 20130930 |
| IAAP-003G | LINE 3 AMMO LAP - GROUNDWATER | FINAL GROUNDWATER ROD - OU #3 | 20130930 |
| IAAP-010G | LINE 9 AMMO LAP - GROUNDWATER | FINAL GROUNDWATER ROD - OU #3 | 20130930 |
| IAAP-044G | LINE 800 & PINKWATER LAGOON- GROUNDWATER | FINAL GROUNDWATER ROD - OU #3 | 20130930 |
| IAAP-039G | FIRE TRAINING PIT - GROUNDWATER | FINAL GROUNDWATER ROD - OU #3 | 20130930 |
| IAAP-002G | LINE 2 AMMO LAP - GROUNDWATER | FINAL GROUNDWATER ROD - OU #3 | 20130930 |
| IAAP-043 | FLY ASH DISPOSAL AREA | FINAL GROUNDWATER ROD - OU #3 | 20130930 |
| IAAP-012G | EDA/EAST BURN PADS - GROUNDWATER | FINAL GROUNDWATER ROD - OU #3 | 20130930 |

Final RA(C) Completion Date: 201801

Schedule for Next Five-Year Review: 2016

Estimated Completion Date of IRP at Installation (including LTM phase): 204709

IOWA ARMY AMMUNITION PLANT IRP Schedule

 = phase underway

| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
|-----------|--|-------|------|------|------|------|------|-------|
| IAAP-002 | LINE 2 AMMO LAP(ARTILLERY/SHAPE) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-002G | LINE 2 AMMO LAP - GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-003 | LINE 3 AMMO LAP (ARTILLERY) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-003G | LINE 3 AMMO LAP - GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-004 | LINE 3A AMMO LAP (ARTILLERY) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-004G | LINE 3A AMMO LAP - GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-005 | LINE 4A AND 4B AMMO ASSEMBLY | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-005G | LINE 4A/4B AMMO ASSEMBLY GROUNDATER | RI/FS | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-006 | LINE 5A AND 5B AMMO ASSEMBLY | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-006G | LINE 5A/5B AMMO ASSMBLY GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-007 | LINE 6 AMMO PRODUCTION(DETONATOR) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-007G | LINE 6 AMMO PRODUCTION GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |

IOWA ARMY AMMUNITION PLANT IRP Schedule

| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
|-----------|---|-------|------|------|------|------|------|-------|
| IAAP-008G | LINE 7 AMMO LAP GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-009 | LINE 8 AMMO LAP(FUZE/ROCKET) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-009G | LINE 8 AMMO LAP GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-010 | LINE 9 AMMO LAP (MINE) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-010G | LINE 9 AMMO LAP - GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-012 | EXPLOSIVE DISPOSAL AREA (EAST BURN PADS) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-012G | EDA/EAST BURN PADS - GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-013 | INCENDIARY DISPOSAL AREA (EAST YARD D) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-013G | INCENDIARY DISPOSAL AREA GROUNDWATR | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-014G | BOX CAR UNLOADING AREA GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-015 | OLD FLY ASH WASTE PILE | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |

IOWA ARMY AMMUNITION PLANT IRP Schedule

| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
|-----------|---|-------|------|------|------|------|------|-------|
| IAAP-015G | OLD FLY ASH WASTE PILE GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-016 | LINE 1 FORMER WASTEWATER IMPOUNDMENT | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-016G | LINE 1 FORMER IMPOUNDMENT GRNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-017 | PESTICIDE PIT | RI/FS | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-017G | PESTICIDE PIT GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-018 | POSSIBLE DEMOLITION SITE(SOUTH YARD G) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-018G | POSSIBLE DEMOLITION SITE GRNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-020 | INERT DISPOSAL AREA | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-020G | INERT DISPOSAL AREA - GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-022G | UNIDENTIFIED SUBSTANCE (OIL) GNDWTR | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-025 | EXPLOSIVE WASTE INCINERATOR | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |

IOWA ARMY AMMUNITION PLANT IRP Schedule

| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
|-----------|---|-------|------|------|------|------|------|-------|
| IAAP-025G | EXPLOSIVE WASTE INCINERATOR GRNDWTR | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-028 | CONSTRUCTION DEBRIS DISPOSAL AREA | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-028G | CONSTRUCTION DEBRIS DISPOSAL GRDWTR | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-030G | FIRING SITE AREA GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-031G | AMMO BOX CHIPPER DISPOSAL GRNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-032 | BURN CAGES, BCLF; WEST BURN PADS, WBPLF | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-032G | WEST BURN PAD AREA - GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-036 | NORTH BURN PADS (2) (NEAR IAAP-024) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-036G | NORTH BURN PADS GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-037 | NORTH BURN PADS LANDFILL | LTM | | | | | | |

IOWA ARMY AMMUNITION PLANT IRP Schedule

| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
|-----------|--|-------|------|------|------|------|------|-------|
| IAAP-037G | NORTH BURN PADS LANDFILL GRNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-038 | BUILDING 600-86 SEPTIC SYSTEM | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-038G | BUILDING 600-86 SEPTIC SYS GNDWTR | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-039 | FIRE TRAINING PIT | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-039G | FIRE TRAINING PIT - GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-040 | ROUNDHOUSE TRANSFORMER STORAGE AREA | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-040G | ROUNDHOUSE TRANSFORMER AREA GRNDWTR | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-041 | LINE 3A POND | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-041G | LINE 3A POND GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-042G | ABANDONED COAL STORAGE YARD GRNDWTR | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |

IOWA ARMY AMMUNITION PLANT IRP Schedule

| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
|-------------|---|-------|------|------|------|------|------|-------|
| IAAP-043G | FLY ASH DISPOSAL AREA GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-044 | LINE 800 & PINKWATER LAGOON | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-044G | LINE 800 & PINKWATER LAGOON- GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-046 | OFF POST CONTAMINATION | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-047 | Central Test Area | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-047G | Central Test Area GROUNDWATER | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| PBC at Iowa | PBC at Iowa | RI/FS | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |

IOWA ARMY AMMUNITION PLANT
Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 8/0

Installation Site Types with Future and/or Underway Phases

1 Firing Range
(IAAP-006-R-02)
1 Open Burn
(IAAP-003-R-01)
6 Unexploded Munitions/Ordnance
(IAAP-001-R-01, IAAP-002-R-01, IAAP-002-R-02, IAAP-004-R-01, IAAP-005-R-01, IAAP-006-R-01)

Most Widespread Contaminants of Concern

Explosives, Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern

Groundwater, Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

| Site ID | Site Name | Action | Remedy | FY |
|---------------|-------------------|--------|-----------------------|------|
| IAAP-001-R-01 | CENTRAL TEST AREA | FRA | UXO CLEARANCE | 2011 |
| IAAP-001-R-01 | CENTRAL TEST AREA | FRA | WASTE REMOVAL - SOILS | 2011 |

Duration of MMRP

Date of MMRP Inception 200305

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201604/204309

Date of MMRP completion including Long Term Management (LTM): 204309

MMRP Contamination Assessment

Contamination Assessment Overview

In October 2003, the Phase 3 Army Range Inventory at IAAAP was completed. The closed, transferred or transferring (CTT) report identified three sites as eligible for the MMRP: the Central Test Area, the Line 6 Ammo Production, and the West Burn Pads Area South. The Phase 3 inventory serves as the PA under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). In FY07 an SI was completed. The intrusive portion of the RI was completed in FY09.

Although the North Burn Pads are shown on the map as a potential MMRP site, there are no plans to address this site under MMRP, as all soil actions have previously been conducted under the IRP.

The IAAAP has requested that three sites be included in the MMRP: the PDS (IAAP-004-R-01), the InDA (IAAP-006-R-01), and the Maneuver Area (IAAP-006-R-02). These sites were not included in the CTT report, completed in 2003, because there was little information available on them.

In 2004 the PDS and InDA were investigated and MEC were found, as documented in the draft final soils data collection report of 2005. These sites were accepted by the MMRP and included in their SI. The RI began in April 2008 and the final RI report was completed as of August 2011. The FS and the FS Amendment was completed in 2012.

Fencing installation was completed 2012 at the PDS and InDA per the 2006 dispute resolution.

An EE/CA is being prepared for the historical small arms range within the PDS Munitions Response Site (MRS). The intent of this work is to characterize the nature and extent of MC contamination associated with the site.

Cleanup Exit Strategy

The RI and FS is complete. RA and LUCs are planned for four of the eight sites. Four sites are expected to require NFA and will reach RC upon finalization of the ROD.

MMRP Previous Studies

| | Title | Author | Date |
|------|--|--|----------|
| 2003 | Final Closed, Transferred and Transferring Range/Site Inventory Report | Engineering - Environment Management, Inc. | OCT-2003 |
| 2007 | Final U.S. Army Operational Range Inventory Sustainment FY06 | US Army Environmental Center | FEB-2007 |
| | Final Historical Records Review for the Military Munitions Response Program | URS Corporation | JUL-2007 |
| | Final Site Inspection Report for the Military Munitions Response Program | URS Corporation | SEP-2007 |
| 2008 | Draft Final Remedial Investigation Work Plan for the Military Munitions Response Program | URS Corporation | APR-2008 |
| | Draft Final Work Plan Addendum Military Munitions Response Program Geophysical Prove-Out Plan | URS Corporation | JUN-2008 |
| | Draft Final Geophysical Prove-Out Technical Memorandum for the Military Munitions Response Program | URS Corporation | SEP-2008 |
| | Draft Final Geophysical Investigation Letter Work Plan Addendum for the Military Munitions Response Program | URS Corporation | SEP-2008 |
| 2009 | Draft Final Intrusive Investigation Letter Work Plan Addendum for the Military Munitions Response Program | URS Corporation | MAY-2009 |
| 2011 | Final Remedial Investigation Report for the Military Munitions Response Program | URS Corporation | JUN-2011 |
| | Final Accident Prevention Plan (Includes Site Safety and Health Plan) for the Military Munitions Response Program | Shaw | NOV-2011 |
| 2012 | Final Fence Installation Work Plan for Possible Demolition Site and Incendiary Disposal Area for the Military Munitions Response Program | Shaw | FEB-2012 |
| | Final Engineering Evaluation/Cost Analysis Work Plan for the Historical Small Arms Range for the Military Munitions Response Program | Shaw | MAY-2012 |
| | Final Feasibility Study Report and Amendment for the Military Munitions Response Program | URS, Amended by Shaw | NOV-2012 |

IOWA ARMY AMMUNITION PLANT
Military Munitions Response Program
Site Descriptions

Site ID: IAAP-001-R-01

Site Name: CENTRAL TEST AREA

STATUS

Regulatory Driver: CERCLA

MRSP Score: 06

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 200305..... | 200310 |
| SI..... | 200606..... | 200710 |
| RI/FS..... | 200703..... | 201401 |
| RD..... | 200703..... | 201504 |
| RA(C)..... | 200703..... | 201604 |
| RA(O)..... | 200703..... | 204309 |

RIP Date: 201604

RC Date: 204309

SITE DESCRIPTION

The Central Test Area consists of 23 acres located in the north-central portion of the IAAAP within the Line 5 IRP site boundary. The site was reduced from 31 acres because the portion containing Bldg 600-84 remains active. It is currently undeveloped. Line 5 is identified as AEDB-R site number IAAP-006. This test area was used from 1943 through 1963 for testing hand grenades, landmines and adapter boosters. A test pit and tripod were located in this area. The test pit had an earthen floor surrounded by wooden walls covered by steel plates. A concrete stand was located in the pit. The tripod area consists of a metal triangular stand, which was used to hold components to be test detonated. Limited information is available about the operations that took place in the Central Test Area. No known UXO responses have been conducted at this site.

In fall 2004 MKM Engineers, Inc. performed a Geophysical Density Survey for MEC at the Central Test Area. The MEC density survey was performed using an electromagnetic metal detector to a depth of four ft bgs. MEC construction support is recommended for the two identified concentrated areas prior to performing any intrusive activity. For all other areas at this site, avoidance procedures should be used during any sampling and clearance is required prior to any large scale soil removal.

An FS amendment is complete as of November 2012.

CLEANUP/EXIT STRATEGY

Per the agreements made in the December 2006 dispute resolution, the US Army has agreed to complete RIs at all MMRP sites at IAAAP. The munitions response site prioritization protocol (MRSP) score for this site was updated during the RI in FY10. The RI Report was finalized in August of 2011. The FS was completed in 2012.

Based on the FS amendment dated November 2012, fencing is the likely remedy.

Site ID: IAAP-002-R-01
Site Name: LINE 6 AMMO PRODUCTION

STATUS

Regulatory Driver: CERCLA

MRSP Score: 05

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 200305..... | 200310 |
| SI..... | 200606..... | 200710 |
| RI/FS..... | 200703..... | 201401 |
| RA(C)..... | 201402..... | 201504 |
| RA(O)..... | 201505..... | 204309 |

RIP Date: 201505

RC Date: 204309

SITE DESCRIPTION

This site consists of the blast radii from Buildings 6-34-2 and 6-92 located in the Line 6 ammo production area. The site originally comprised 95.21 acres. It was reduced to eight acres during the RI and was further considered in the FS. The site is currently inactive. The Line 6 ammo production area is located near the center of the IAAAP and was used for the production, storage and shipping of detonators, primers, relays, delays, hand grenade fuses, and mines. Line 6 is identified as AEDB-R site number IAAP-007. Production Building 6-34-2 was used to load detonators. The northern end of the building was used to assemble detonators and the southern end was used for loading black powder into a component known as a candlestick. There was also a room for component storage. In November 1968, loading black powder caused an explosion in the southern half of the building. Unexploded detonators were found scattered around the area. All visible detonators were recovered at that time.

Component rumble Building 6-92 was used to clean explosives residue from the newly completed components, such as detonators and relays. Components were mixed with hot sawdust and placed into a rumble machine. The sawdust was removed by vibration. The components were then placed in boxes and sent to the inspection and shipping building. In February 1970 an explosion occurred in this building. All visible components were recovered at that time. Another visual inspection of the area was recently conducted in preparation for sewer line construction. No UXO was found during this inspection.

In fall 2004 MKM Engineers, Inc. performed a Geophysical Density Survey for MEC at Line 6. The MEC density survey was performed using an electromagnetic metal detector to a depth of four feet bgs. MEC avoidance procedures should be used during any sampling and clearance is required prior to any large scale soil removal.

The US Army has determined that the facilities at this line are excess and will pursue non-ER,A funding for building demolition and debris removal of some buildings. An active 40mm Test Range began operations immediately south of Line 6 and use some previously inactive buildings.

The remaining 87.21 acres, which are the outside of the buildings' blast radii, will be addressed in IAAP-002-R-02 with a recommendation of NFA.

The FS amendment was completed in November 2012.

CLEANUP/EXIT STRATEGY

In October 2007 the SI was completed. Per the agreements made in the December 2006 dispute resolution, the US Army has agreed to complete RIs at all MMRP sites at IAAAP. The MRSP score for this site was updated during the RI in FY10. The RI Report was finalized in August of 2011. The FS was completed in 2012.

Based on the FS amendment dated November 2012, fencing is the likely remedy.

Site ID: IAAP-002-R-02

Site Name: Line 6 - Outside Blast Radii

STATUS

Regulatory Driver: CERCLA

MRSP Score: No known or suspected hazard

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 200305..... | 200310 |
| SI..... | 200606..... | 200710 |
| RI/FS..... | 200703..... | 201401 |

RIP Date: N/A

RC Date: 201401

SITE DESCRIPTION

This site consists of the area outside the blast radii from Building 6-34-2 and Building 6-92 located in the Line 6 ammo production area. It originally comprised 95.21 acres. It was reduced to 87.21 acres during the RI and it is recommended for NFA. The remaining eight acres will be addressed under IAAP-002-R-001. The Army plans to use portions of this line to support the 40mm test range that will lie directly south.

The Line 6 ammo production area is located near the center of the IAAP and was used for the production, storage and shipping of detonators, primers, relays, delays, hand grenade fuses, and mines. Line 6 is identified as AEDB-R site number IAAP-007. Production Building 6-34-2 was used to load detonators. The northern end of the building was used to assemble detonators and the southern end was used for loading black powder into a component known as a candlestick. There was also a room for component storage. In November 1968, loading black powder caused an explosion in the southern half of the building. Unexploded detonators were found scattered around the area. All visible detonators were recovered at that time.

Component rumble Building 6-92 was used to clean explosives residue from the newly completed components, such as detonators and relays. Components were mixed with hot sawdust and placed into a rumble machine. The sawdust was removed by vibration. The components were then placed in boxes and sent to the inspection and shipping building. In February 1970 an explosion occurred in this building. All visible components were recovered at that time. Another visual inspection of the area was recently conducted in preparation for sewer line construction. No UXO was found during this inspection.

In fall 2004 MKM Engineers, Inc. performed a Geophysical Density Survey for MEC at Line 6. The MEC density survey was performed using an electromagnetic metal detector to a depth of four feet bgs. MEC avoidance procedures should be used during any sampling and clearance is required prior to any large scale soil removal.

The US Army has determined that many of the facilities at this line are excess and will pursue non-ER,A funding for building demolition and debris removal.

This site has been reduced to 87.21 acres, which are the outside of the buildings blast radii. The Army expects to take NFA at this site.

The final FS amendment is dated November 2012.

CLEANUP/EXIT STRATEGY

This site has been reduced to 87.21 acres, which are the outside of the buildings blast radii. The Army expects to take NFA at this site.

Therefore, no cleanup or exit strategy applies other than documenting this fact in CERCLA documentation. The NFA is being documented in the FS, the PP (which is in public comment period), and the ROD, which is scheduled to be final in January 2014.

Site ID: IAAP-003-R-01
Site Name: WEST BURN PADS

STATUS

Regulatory Driver: CERCLA
MRSP Score: No known or suspected hazard

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 200305..... | 200310 |
| SI..... | 200606..... | 200710 |
| RI/FS..... | 200703..... | 201401 |

RIP Date: N/A

RC Date: 201401

SITE DESCRIPTION

The west burn pads consist of 6.98 acres located in the northeast corner of IAAAP. This site was used from 1949 through 1982 for flashing metals contaminated with explosives. This site has been combined with burn cages and a landfill to form AEDB-R site number IAAP-032. Soil is the only media expected to be addressed.

In 2000 the IRP program performed an RA on the contaminated soil at IAAP-032. Approximately 46,000 cy of soil were excavated from the site to depths exceeding four feet. No evidence of munitions or bulk explosives was discovered. After completion of this removal action, an area of potentially contaminated soil located across the road that served as the site's southern boundary was discovered. In 2001 the west burn pads area was discovered to have been used by both IAAAP and the former US Atomic Energy Commission. Prior to further investigation under the IRP, the newly discovered southern portion of the west burn pads was designated by the USACE as a site under the FUSRAP.

With the exception of ground and surface water contamination, FUSRAP will respond to all releases and threats of releases of hazardous substances, pollutants or contaminants for the west burn pads area south of the road.

When the MMRP conducted their PA of the west burn pads, the area south of the road was not yet discovered.

While no MMRP response has been conducted at this site, IRP documentation shows that projectile bodies were discovered and UXO construction support was employed for the remainder of the soil removal action. The west burn pads north of the road are currently undeveloped. The area south of the road contains several structures including bunkers and buildings.

A geophysical survey and intrusive investigation have been completed as part of the RI. The RI was completed in August 2011.

CLEANUP/EXIT STRATEGY

Based upon the FS and PP, the Army plans NFA at this site.

Therefore, no cleanup or exit strategy applies other than documenting this fact in CERCLA documentation. The NFA is being documented in the FS, the PP (which is in public comment period), and the ROD, which is scheduled to be final in January 2014.

Site ID: IAAP-004-R-01
Site Name: POSSIBLE DEMOLITION SITE

STATUS

Regulatory Driver: CERCLA

MRSP Score: 03

Contaminants of Concern: Explosives, Munitions and explosives of concern (MEC)

Media of Concern: Groundwater, Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 200305..... | 200310 |
| SI..... | 200606..... | 200710 |
| RI/FS..... | 200703..... | 201401 |
| RA(C)..... | 201402..... | 201504 |
| RA(O)..... | 201505..... | 204309 |

RIP Date: 201505

RC Date: 204309

SITE DESCRIPTION

This PDS MRS encompasses 40 acres (increased from 15 acres) including the area north of K Road, but was not identified as an active US Army MMRP site in the Final CTT Range/Site Inventory Report (USACE 2003). The historical records review (HRR) findings indicated that the site was located south of the pistol range and K Road, and east of Long Creek. It was probably used during the 1940s and early-1950s as a demolition area for ammunition items and for demilitarizing white phosphorous rounds.

Drawings reviewed for the PDS included the 1945 Day and Zimmermann, Inc. drawing titled "Contaminated Areas Near East Boundary-South of Lower Augusta Rd. and East of YD. 'E'", which identifies three contaminated areas at IAAP including the PDS MRS. Based on the location obtained from the drawing, no ground scarring was observed in the aerial photographs reviewed for this area; however, the 1957 aerial photo indicated ground scarring just to the east of the PDS location identified in the 1945 drawing.

There is no documentation to indicate that demolition activities occurred at this site or which types of ammunition items were treated. The size of the site was also unknown. In 1991 PA/SI sampling was completed and no significant contamination was found.

A geophysical survey and intrusive investigation have been completed as part of the RI. The RI was completed in August 2011.

CLEANUP/EXIT STRATEGY

In October 2007 the SI was completed. Per the agreements made in the December 2006 dispute resolution, the US Army has agreed to complete RIs at all MMRP sites at IAAP. The MRSP score for this site was updated during the RI in FY10. The RI report was finalized in August of 2011. The FS was completed in 2012.

Fencing installation was completed in 2012 per the 2006 dispute resolution and will stand as the remedy as recommended in the FS amendment dated November 2012. Historical small arms contamination will be addressed under an EE/CA and action memorandum.

Site ID: IAAP-005-R-01

Site Name: WEST BURN PADS SOUTH OF THE ROAD

STATUS

Regulatory Driver: CERCLA

MRSPP Score: No known or suspected hazard

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 200305..... | 200310 |
| SI..... | 200606..... | 200710 |
| RI/FS..... | 200703..... | 201401 |

RIP Date: N/A

RC Date: 201401

SITE DESCRIPTION

Interviews indicate that the area south of the west burn pads MRS was an additional burning area in the early-1940s and, possibly, the 1950s. Hereafter it will be referred to as the west burn pads area south of the road MRS. The area was not identified in the final CTT range/site inventory report (e2M 2003). It is located in the northeast corner of IAAAP and is believed to be an extension of the west burn pads MRS. The area did not undergo any RAs during the focused FS at the west burn pads MRS (USACE 2003).

The west burn pads area south of the road MRS appears on a number of historical maps with no indication that munitions or debris were burned there; however, investigative sampling data identified explosive and metals contamination at the site. The number of suspect acres identified during the HRS is 10.58.

A geophysical survey and intrusive investigation have been completed as part of the RI.

Excavated soil was taken to the IDA (IAAP-020) and sorted by contaminant type. Some highly contaminated soil was disposed of off-site.

FUSRAP completed soil excavations in 2010.

The RI was completed in August 2011.

CLEANUP/EXIT STRATEGY

The FS was complete on December 2012. Based upon the FS and PP, the Army plans NFA at this site. Therefore, no cleanup or exit strategy applies other than documenting this fact in CERCLA documentation. The NFA is being documented in the FS, the PP (which is in public comment period), and the ROD, which is scheduled to be final in January 2014.

Site ID: IAAP-006-R-01
Site Name: INCENDIARY DISPOSAL AREA

STATUS

Regulatory Driver: CERCLA

MRSP Score: 03

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Soil

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 200305..... | 200310 |
| SI..... | 200606..... | 200710 |
| RI/FS..... | 200703..... | 201401 |
| RA(C)..... | 201402..... | 201504 |
| RA(O)..... | 201505..... | 204309 |

RIP Date: 201505

RC Date: 204309

SITE DESCRIPTION

In the Final CTT Range/Site Inventory Report (e2M 2003) the IDA MRS was not identified as an Active US Army MMRP site. The area is within the boundary of the east training range munitions response area (MRA) and is believed to have been used in the mid-1940s to burn incendiary material. Historical information indicates that the area consisted of 10 acres, but only one historical map was located that identified the site's dimensions. Two additional historical maps identified contaminated areas within its boundaries. Documentation was not located that specifically identified actual munitions burned at the site. Documents reviewed for the HRR indicate that soil contamination is present. Based on the detonation craters identified in 2001, the acreage of the area was increased to 12 to incorporate the detonation craters.

Geophysical survey and intrusive investigation has been completed as part of the RI. The number of acres was increased to 34 during the RI.

An RI was completed in August 2011.

CLEANUP/EXIT STRATEGY

In October 2007 the SI was completed. Per the agreements made in the December 2006 dispute resolution, the US Army has agreed to complete RIs at all MMRP sites at IAAP. The MRSP score for this site was updated during the RI in FY10. The RI Report was finalized in August 2011. The FS was completed in 2012.

Based on the FS amendment dated November 2012, fencing is the likely remedy.

Site ID: IAAP-006-R-02
Site Name: MANEUVER AREA

STATUS

Regulatory Driver: CERCLA

MRSPP Score: No known or suspected hazard

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 200305..... | 200310 |
| SI..... | 200606..... | 200710 |
| RI/FS..... | 200703..... | 201401 |

RIP Date: N/A

RC Date: 201401

SITE DESCRIPTION

In the final CTT range/site inventory report (e2M 2003) the maneuver area MRS was not identified as an Active US Army MMRP site. During the SI the area was identified as consisting of 508 acres within the boundary of the east training range MRA. Historically, it has been used by the Iowa Army National Guard (IAARNG) for dismounted movement, construction of bivouac sites, and night convoy operations. Also, IAARNG has been authorized to use ammunition blanks and pyrotechnics ordnance during training activities. No other potential munitions were identified. The IAARNG units historically permitted to train at IAAP have included the 224th Engineer Battalion, the 185th Regional Training Institute, the 19th Area Support Medical Battalion, the 134th Medical Company, the 109th Aviation Detachment, and the 234th Signal Battalion. The number of acres identified during the SI was 508.

In 2007 the SI was completed and per the Dec. 20, 2006 dispute resolution, this MRS was moved directly to the RI/FS phase. The RI began in April 2008. The site was reduced to 486 acres based on preliminary RI work.

A geophysical survey and intrusive investigation have been completed as part of the RI. An RI was completed in August 2011.

CLEANUP/EXIT STRATEGY

The FS was complete on December 2012. Based upon the FS and PP, the Army plans NFA at this site. Therefore, no cleanup or exit strategy applies other than documenting this fact in CERCLA documentation. The NFA is being documented in the FS, the PP (which is in public comment period), and the ROD, which is scheduled to be final in January 2014.

Site Closeout (No Further Action) Summary

Site ID

Site Name

NFA Date

Documentation

There are no NFA sites

MMRP Schedule

Date of MMRP Inception 200305

Past Phase Completion Milestones

2004

PA (IAAP-001-R-01 - CENTRAL TEST AREA, IAAP-002-R-01 - LINE 6 AMMO PRODUCTION, IAAP-002-R-02 - Line 6 - Outside Blast Radii, IAAP-003-R-01 - WEST BURN PADS, IAAP-004-R-01 - POSSIBLE DEMOLITION SITE, IAAP-005-R-01 - WEST BURN PADS SOUTH OF THE ROAD, IAAP-006-R-01 - INCENDIARY DISPOSAL AREA, IAAP-006-R-02 - MANEUVER AREA)

2008

SI (IAAP-001-R-01 - CENTRAL TEST AREA, IAAP-002-R-01 - LINE 6 AMMO PRODUCTION, IAAP-002-R-02 - Line 6 - Outside Blast Radii, IAAP-003-R-01 - WEST BURN PADS, IAAP-004-R-01 - POSSIBLE DEMOLITION SITE, IAAP-005-R-01 - WEST BURN PADS SOUTH OF THE ROAD, IAAP-006-R-01 - INCENDIARY DISPOSAL AREA, IAAP-006-R-02 - MANEUVER AREA)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates


| Site ID | Site Name | ROD/DD Title | ROD/DD Date |
|---------------|----------------------------------|------------------------|-------------|
| IAAP-006-R-01 | INCENDIARY DISPOSAL AREA | OU5 Record of Decision | 20130930 |
| IAAP-006-R-02 | MANEUVER AREA | OU5 Record of Decision | 20130930 |
| IAAP-005-R-01 | WEST BURN PADS SOUTH OF THE ROAD | OU5 Record of Decision | 20130930 |
| IAAP-004-R-01 | POSSIBLE DEMOLITION SITE | OU5 Record of Decision | 20130930 |
| IAAP-001-R-01 | CENTRAL TEST AREA | OU5 Record of Decision | 20130930 |
| IAAP-002-R-02 | Line 6 - Outside Blast Radii | OU5 Record of Decision | 20130930 |
| IAAP-003-R-01 | WEST BURN PADS | OU5 Record of Decision | 20130930 |
| IAAP-002-R-01 | LINE 6 AMMO PRODUCTION | OU5 Record of Decision | 20130930 |

Final RA(C) Completion Date: 201604

Schedule for Next Five-Year Review: 2016

Estimated Completion Date of MMRP at Installation (including LTM phase): 204309

IOWA ARMY AMMUNITION PLANT MMRP Schedule

 = phase underway

| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
|---------------|----------------------------------|-------|------|------|------|------|------|-------|
| IAAP-001-R-01 | CENTRAL TEST AREA | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-002-R-01 | LINE 6 AMMO PRODUCTION | RI/FS | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-002-R-02 | Line 6 - Outside Blast Radii | RI/FS | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-003-R-01 | WEST BURN PADS | RI/FS | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-004-R-01 | POSSIBLE DEMOLITION SITE | RI/FS | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-005-R-01 | WEST BURN PADS SOUTH OF THE ROAD | RI/FS | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-006-R-01 | INCENDIARY DISPOSAL AREA | RI/FS | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| IAAP-006-R-02 | MANEUVER AREA | RI/FS | | | | | | |

IOWA ARMY AMMUNITION PLANT
Army Defense Environmental Restoration Program
Compliance Restoration

CR Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 4/0

Installation Site Types with Future and/or Underway Phases

| | |
|---|------------------------------------|
| 1 | Contaminated Fill (CC-IAAP-001) |
| 1 | Drainage Ditch (CC-IAAP-002) |
| 1 | Industrial Discharge (CC-001G) |
| 1 | Spill Site Area (CC-01) |

Most Widespread Contaminants of Concern

Media of Concern

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

| Site ID | Site Name | Action | Remedy | FY |
|---------|-----------|--------|--------|----|
| N/A | | | | |

Duration of CR

Date of CR Inception: 198901

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201810/204811

Date of CR completion including Long Term Management (LTM): 204309

CR Contamination Assessment

Contamination Assessment Overview

The IAAAP is located on US Highway 34, approximately eight miles west of Burlington, Iowa. The facility is a GO/CO military industrial installation under the jurisdiction of the US Army Joint Munitions Command, headquartered in Rock Island, Illinois. Its primary mission is to manufacture and LAP ammunition items.

The plant was established in July 1941 as the Iowa Ordnance Plant. The plant's mission was to LAP ammunition. It produced munitions for World War II until August 1945 when plant operations reverted to US Army control. Until 1951 its mission was the storage of ammunition and surveillance. From 1947 to 1975 the former US Atomic Energy Commission occupied portions of the IAAAP. Since 1951, when Mason and Hanger-Silas Mason Co., Inc. began operations, the plant has been a GO/CO. The IAAAP is currently an active installation.

The primary source of contamination at the CC sites is attributable to past operating practices during which explosive contaminated wastewater and sludge were discharged to deteriorating sumps, uncontrolled drainage ways, and land filling of waste material. Currently, process wastewaters are treated and recycled, while only a small portion of the treated wastewater, containing residual explosives and other contaminants regulated under the plant's NPDES permit, is discharged to the surface.

In August 1989, the installation was proposed for the NPL, because surface water contaminated with explosives was leaving the installation boundary. The IAAAP HRS score is 29.73. In September 1990 an FFA was signed by the USEPA, Region VII and the US Army; it became effective in December 1990.

In 2004 six sites were transferred from IRP action to CC action. They were:

- IAAP-019, Contaminated Clothing Laundry
- IAAP-021, Demolition Area/Deactivation Furnace
- IAAP-024, Contaminated Waste Processor
- AAP-026, Main Sewage Treatment Plant/Drying Beds
- IAAP-027, Fly Ash Landfill
- IAAP-029, Line 3A Sewage Treatment Plant/Drying Beds

Environmental restoration activities include the IRP and MMRP. On Dec. 29, 2008, the Office of the Deputy Under Secretary of Defense for Installations and Environment (ODUSD I&E), issued an interim policy for Defense Environmental Restoration Program (DERP) eligibility that rescinded the 1986 eligibility date for the IRP and the 2002 eligibility date for the MMRP. This made many sites previously addressed in the Army's CC program eligible for the DERP. Sites that are now eligible for the munitions response (MR) program have been migrated from Army Environmental Database-Compliance-related Cleanup (AEDB-CC) and given the naming convention of other MR sites. The newly eligible non-MR type sites are considered to be Installation Restoration (IR) sites; however, the newly eligible sites are being coded as Compliance Restoration (CR) in AEDB-R to distinguish them from the original IR sites and IR metrics.

In 2009, the Contaminated Clothing Laundry was transferred to back to the IRP and identified as site CC-01. The CC planned to complete the CMS at this site and the IRP was to continue subsequent actions. IRP submitted the draft SRI work plan to the USEPA in July 2011. The USEPA took exception to RCRA/CERCLA integration proposed by the Army. Therefore, the Army will continue to manage and cleanup CC-01 under RCRA.

In 2009, the Army identified two construction debris sites that require assessment and possible action. These sites are identified as CC-IAAP-001 and CC-IAAP-002. All media at these sites are addressed under OU9.

Line 1 Groundwater will be addressed under site CC-001G and was placed on contract in 2011. This site was an original IR site. Fieldwork began in the fall of 2011 and continues.

Cleanup Exit Strategy

IRP will proceed with future groundwater and surface water actions at sites CC-01 and CC-001G.

Load and haul is expected at the other CR sites as they are construction debris areas.

CR Previous Studies

Title

Author

Date

There are no Previous Studies

IOWA ARMY AMMUNITION PLANT

Compliance Restoration

Site Descriptions

Site ID: CC-001G
Site Name: Line 1 Groundwater

STATUS

Regulatory Driver: CERCLA
Contaminants of Concern: Explosives, Metals
Media of Concern: Groundwater, Surface Water

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 198901..... | 199105 |
| SI..... | 198901..... | 199108 |
| RI/FS..... | 201010..... | 201603 |
| RD..... | 201509..... | 201705 |
| RA(C)..... | 201605..... | 201809 |
| RA(O)..... | 201809..... | 204309 |
| RIP Date: | 201809 | |
| RC Date: | 204309 | |

SITE DESCRIPTION

Line 1 is an ammunition production line. The waste primarily comes from the historical practice of uncontrolled releases from sumps, washdowns, and operational effluent. The operational wastewater is now treated by carbon adsorption to NPDES standards. Cleanup action at this site for groundwater is being handled by the IRP.

Responsibility for soil actions were transferred to FUSRAP in 2002. Funding for all of these phases is under contract for groundwater with USACE, Louisville District in FY11. LTM costs are captured under IAAP-020.

CLEANUP/EXIT STRATEGY

The current exit strategy includes preparation of a risk-based (10-4) trigger for active remediation. The Army will establish a CERCLA point of compliance for all identified operational areas. Preparation of the revised draft RI/FS is underway and will reflect this strategy.

Site ID: CC-01

Site Name: Contaminated Clothing Laundry

STATUS

Regulatory Driver: RCRA
Contaminants of Concern: Explosives
Media of Concern: Groundwater

| Phases | Start | End |
|------------------|-------------|--------|
| RFA..... | 199006..... | 199106 |
| CS..... | 199006..... | 199106 |
| RFI/CMS..... | 199505..... | 201603 |
| DES..... | 199505..... | 201705 |
| CMI(C)..... | 199505..... | 201809 |
| CMI(O)..... | 199505..... | 204309 |
| RIP Date: | 201809 | |
| RC Date: | 204811 | |

SITE DESCRIPTION

This site only addresses the groundwater at the Contaminated Clothing Laundry (CCL). The CCL (Building 500-125) is located in the west-central portion of the IAAAP. The laundry has been in operation from the 1940s through the present. It is currently used to launder coveralls, underwear, and towels used by production and maintenance personnel. The waste stream generated from the laundry is spent wash water that may contain explosives. This wastewater drained from the laundry into an open topped sump located outside the east side of Building 500-125. The open sump was constructed in the 1940s of reinforced concrete, which was upgraded with a covered sump in 2007.

In 1991, the PA/SI was conducted by the USTHAMA; the analyses did not discover explosives-contaminated soils. The revised Draft Final Remedial Investigation, IAAAP, 11 Volumes was completed in 1996 reflecting SI results. In 1997 the explosive RDX was found in the surface soils surrounding the sump, indicating a potential release of water from this sump. (Report of Action IAAAP Laundry Effluent Pretreatment System Sampling and Analysis, 1997). In 2001 the site was determined to be ineligible for IRP action because it is an active site. In accordance with the 2004 FFA dispute resolution with the USEPA, the site was transferred to the CC Program for further investigation and action under RCRA. In 2006, soil sampling showed no contamination above SRI screening levels. In 2007, as part of the sump upgrade, soils were sampled again and actionable levels of explosives were discovered. Contaminated soil was removed and disposed of at the IDA under CC. This is considered a completed IRA. In 2008 sampling results indicated that the groundwater below the sump is contaminated with RDX. The highest result was 20.5 ppb RDX. In 2009, the site became DERP eligible and was transferred back to IRP as part of a policy change. In 2012, the Army proposed that the site be managed as part of OU-6, on-site groundwater, but the USEPA declined that proposal. Groundwater will proceed to be addressed under RCRA.

Costs up to RIP and phase schedules will be captured here. Remaining LTM costs will be captured under IAAP-020.

CLEANUP/EXIT STRATEGY

The IRP will proceed with all future actions for groundwater cleanup under RCRA. Future activities at this site concern groundwater actions which will include RCRA facility investigation (RFI), CMS, SOB, DD. These phases and two years of LTM are funded under contract with USACE, Louisville District.

Site ID: CC-IAAP-001
Site Name: Construction Debris Site #1

STATUS

Regulatory Driver: CERCLA

Contaminants of Concern: Asbestos, Explosives, Metals, Polychlorinated Biphenyls (PCB), Radionuclides

Media of Concern: Groundwater, Sediment, Soil, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 199001..... | 199112 |
| SI..... | 199001..... | 199112 |
| RI/FS..... | 201205..... | 201606 |
| RD..... | 201205..... | 201708 |
| RA(C)..... | 201205..... | 201810 |

RIP Date: N/A

RC Date: 201810

SITE DESCRIPTION

This site addresses all media: soil, groundwater, surface water, and sediment. It was discovered in October 2007 at the intersection of roads H and A during maintenance work performed on the water main. The site contains construction debris that includes asbestos, lead, and possible other contaminants that appear to have been used as fill. Actual size of the site is approximately 10 acres.

An RI was funded in FY12 and is underway. Load and haul actions will be the acceptable remedy.

CLEANUP/EXIT STRATEGY

The expected remedy is to characterize the site with dig and hauls.

Site ID: CC-IAAP-002
Site Name: Construction Debris Site #2

STATUS

Regulatory Driver: CERCLA

Contaminants of Concern: Asbestos, Explosives, Metals, Polychlorinated Biphenyls (PCB), Radionuclides

Media of Concern: Groundwater, Sediment, Soil, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 199001..... | 199112 |
| SI..... | 199001..... | 199112 |
| RI/FS..... | 201205..... | 201606 |
| RD..... | 201205..... | 201708 |
| RA(C)..... | 201205..... | 201810 |

RIP Date: N/A

RC Date: 201810

SITE DESCRIPTION

This site addresses all media: soil, groundwater, surface water, and sediment. It was discovered by recreational users in March 2009 along a tributary to Brush Creek in a forested area south of Line 2. The site consists of construction debris containing asbestos and possible other contaminants. The actual size of the site is approximately 10 acres.

An RI was funded in FY12. Load and haul actions will be the acceptable remedy.

CLEANUP/EXIT STRATEGY

The expected remedy is to characterize the site with dig and hauls.

Site Closeout (No Further Action) Summary

Site ID

Site Name

NFA Date

Documentation

There are no NFA sites

CR Schedule

Date of CR Inception: 198901

Past Phase Completion Milestones

1991

CS (CC-01 - Contaminated Clothing Laundry)
 RFA (CC-01 - Contaminated Clothing Laundry)
 PA (CC-001G - Line 1 Groundwater)
 SI (CC-001G - Line 1 Groundwater)

1992

PA (CC-IAAP-001 - Construction Debris Site #1, CC-IAAP-002 - Construction Debris Site #2)
 SI (CC-IAAP-001 - Construction Debris Site #1, CC-IAAP-002 - Construction Debris Site #2)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

| Site ID | Site Name | ROD/DD Title | ROD/DD Date |
|---------|-----------|--------------|-------------|
|---------|-----------|--------------|-------------|

Final RA(C) Completion Date: 201810

Schedule for Next Five-Year Review: 2016

Estimated Completion Date of CR at Installation (including LTM phase): 204309

IOWA ARMY AMMUNITION PLANT CR Schedule

 = phase underway

| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
|-------------|-------------------------------|---------|------|------|------|------|------|-------|
| CC-001G | Line 1 Groundwater | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| CC-01 | Contaminated Clothing Laundry | RFI/CMS | | | | | | |
| | | DES | | | | | | |
| | | CMI(C) | | | | | | |
| | | CMI(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| CC-IAAP-001 | Construction Debris Site #1 | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY14 | FY15 | FY16 | FY17 | FY18 | FY19+ |
| CC-IAAP-002 | Construction Debris Site #2 | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |

Community Involvement

Technical Review Committee (TRC): 199204

Community Involvement Plan (Date Published): 201107

Restoration Advisory Board (RAB): RAB established 199708

RAB Adjournment Date: N/A

RAB Adjournment Reason: None

Additional Community Involvement Information

In August 1997 a RAB was established. Since its inception the RAB has been very active, meeting quarterly to receive training and provide input to the environmental restoration process. The RAB members are from the surrounding communities. Government members are from the installation, the USEPA, and the state of Iowa. The RAB continues to review documents, provide input to the community relations plan, and help establish project priorities.

A separate program and citizen advisory board has been formed by the US Department of Energy to address health-related issues of former US Atomic Energy Commission workers.

The Burlington Public Library has computers available to the public for those interested in viewing the electronic version of the Administrative Record.

Burlington Public Library
210 Court Street
Burlington, IA 52601
phone 319.753.1647

Administrative Record is located at

Administrative Record is online at www.iaaap.adminrecord.com

Hard copy is located at the IAAAP DERP Library.
17571 DMC Hwy 79
Middletown, IA 52639
319-753-7130

Information Repository is located at

Iowa Army Ammunition Plant
17571 DMC Hwy 79
Middletown, IA 52639
319-753-7130

Current Technical Assistance for Public Participation (TAPP):N/A

TAPP Title: N/A

Potential TAPP: N/A

